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Ontario Geological Survey
Open File Report 6044

Results of Modern Alluvium Sampling, Kapuskasing–Fraserdale Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

2001

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Ontario

ONTARIO GEOLOGICAL SURVEY

Open File Report 6044

Results of Modern Alluvium Sampling, Kapuskasing–Fraserdale Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

by

Ontario Geological Survey

2001

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*Miscellaneous Release—Data 68

Results of Modern Alluvium Sampling, Kapuskasing–Fraserdale Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone; by the Ontario Geological Survey.

This release consists of data related to kimberlite indicator minerals (KIMs), metamorphosed magmatic/massive sulphide indicator minerals (MMSIMs®), carbonatite indicator minerals and gold grains recovered from modern alluvium samples collected in the Kapuskasing–Fraserdale area, northeastern Ontario. The data are being released in conjunction with Open File Report 6044. Files on this release contain information on abbreviations used; sample site locations; KIM counts; microprobe data (wt% geochemistry) for KIMs (e.g., garnets, chromites, Mg-ilmenites, olivines, and pyroxenes); MMSIMs; microprobe data (wt% geochemistry) for MMSIMs, gahnite; carbonatite indicator minerals; and gold grains. Data is available as self-extracting zip files in ASCII (.txt) and Microsoft Excel (.xls) file format on one 3.5-inch MS-DOS diskette.

This diskette is available separately from the report.

Abstract

In 2000 the Ontario Geological Survey (OGS) completed a modern alluvium sampling study in the Kapuskasing–Fraserdale area of northeastern Ontario to determine the presence of kimberlite indicator minerals (KIMs), metamorphic/magmatic massive sulphide indicator minerals (MMSIMs) and gold grains. This study was carried out as part of the Operation Treasure Hunt (OTH) program. Results showed the presence of a number of indicator minerals commonly associated with kimberlite and base metal deposits.

A total of 1890 KIMs were recovered including; 1 "G10" Cr–pyrope garnet, 1 diamond inclusion field chromite and 28 kimberlitic chromites. Other recovered KIMs include; "G9" Cr–pyrope garnet, megacrystic garnets, eclogitic garnets, kimberlitic Cr–diopsides, ilmenites and forsteritic olivines. Samples collected from the northwestern part of the study area contained the "G10" Cr–pyrope garnet, the diamond inclusion field chromite and other significant KIMs. This area is considered the most favourable for kimberlite exploration within the project area.

A number of metamorphic/magmatic massive sulphide indicator minerals were recovered, including 70 gahnites and 171 red rutiles. Gahnite and red rutile are considered excellent indicators of potential metamorphosed/magmatic massive sulphide mineralization. Gahnite results show a distinct enrichment in the central part of the study area, possibly related to regional faults associated with the Kapuskasing Structural Zone.

Gold grain analysis recovered 1 pristine grain, 12 modified grains and 289 reshaped grains. Five areas show elevated values of gold.

Results of Modern Alluvium Sampling, Kapuskasing–Fraserdale Area, Northeastern Ontario: Operation Treasure Hunt—Kapuskasing Structural Zone

Ontario Geological Survey

Ontario Geological Survey
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2001

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Introduction

Modern alluvium sampling for heavy mineral indicators was carried out over the Kapuskasing Structural Zone (KSZ) during the summer of 2000 under the Operation Treasure Hunt (OTH) program (Figure 1). This project is but one of several geoscience projects being completed under OTH.

Traditionally, the modern alluvium sampling program of the Ontario Geological Survey (OGS) has undertaken low to medium density sampling over structurally favourable shield terrain in Ontario in conjunction with Quaternary mapping. The OTH program over the KSZ involved medium density (approximately 1 sample per 30 km^2) sampling over an area of approximately 65 000 km^2. Approximately 2000 samples were collected and were processed to isolate kimberlite indicator minerals, metamorphic/magmatic massive sulphide indicator minerals and gold grains. This report provides data and preliminary interpretation on the types and distribution of kimberlite indicator minerals (KIMs), metamorphic/magmatic massive sulphide indicator minerals (MMSIMs®)* and gold grains for 507 of the approximately 2000 total samples. The 507 modern alluvium samples were collected from the 16 128 km^2 Kapuskasing–Fraserdale section of the OTH sampling survey (Figure 2) (Appendix A).

Previous studies indicate high potential for KIMs and MMSIMs within the Kapuskasing Structural Zone (Wolfe et al. 1975; Bennett et al. 1967; Morris, Crabtree and Averill 1998; Stephenson et al. 1999). In 1997 and 1998, overburden mapping along with till and modern alluvium sampling programs were initiated by the OGS south of the study area in the Woman Falls–Wakusimi River (Morris 1998; Morris, Crabtree and Averill 1998) and the Opasatika–Roche Lake areas (Stephenson et al. 1999; Stephenson 1999) (Figure 2). From 1994 to 1996 mapping, modern alluvium and soil sampling was also completed in the Wawa region, within the southern part of the KSZ (Figure 2)(Morris 1994a; 1994b; 1995a; 1995b; 1996a; 1996b; 1997a; 1997b; Morris et al. 1994; Morris, Crabtree and Pianosi 1997; Morris, Crabtree et al. 1998). For all of the studies, collected samples were analysed for MMSIMs®, KIMs and gold.

The objective of the present OTH study was to complete a program of modern alluvium sampling to further evaluate the mineral potential of the KSZ area. Sampling and analysis were designed to identify; 1) the presence of KIMs and MMSIMs®; and 2) background values for gold within modern alluvium of the Kapuskasing–Fraserdale area and determine whether anomalous values were present.

STUDY AREA

The study area for the OTH, KSZ modern alluvium sampling project extends from south of Chapleau to north of Fraserdale. This area has been divided into 4 sub-areas, namely the Chapleau, Foleyet, Kapuskasing–Fraserdale and the Coral Rapids areas (Figure 1). This report covers the Kapuskasing–Fraserdale area.

The Kapuskasing–Fraserdale area is represented on 17, 1:50 000 scale National Topographic System (NTS) maps, namely; the Abitibi (42 H/2), Cochrane (42 H/3), Bradburn Lake (42 H/4), Smooth Rock Falls (42 H/5), Gardiner (42 H/6), Little Abitibi Lake (42 H/7), Island Falls (42 H/11), Abimatinu (42 H/12), Fraserdale (42 H/13), Rock River (42 G/6), Val Rita (42 G/7), Kapuskasing (42 G/8), Pearce Lake (42 G/9), Opasatika (42 G/10), Mattice (42 G/11), Hilmer Lake (42 G/15) and Bennet Lake (42 G/16) sheets. The area is bounded by longitudes 83°30′W and 80°30′W and latitudes 50°00′N and 49°00′N (Figure 3, back pocket).

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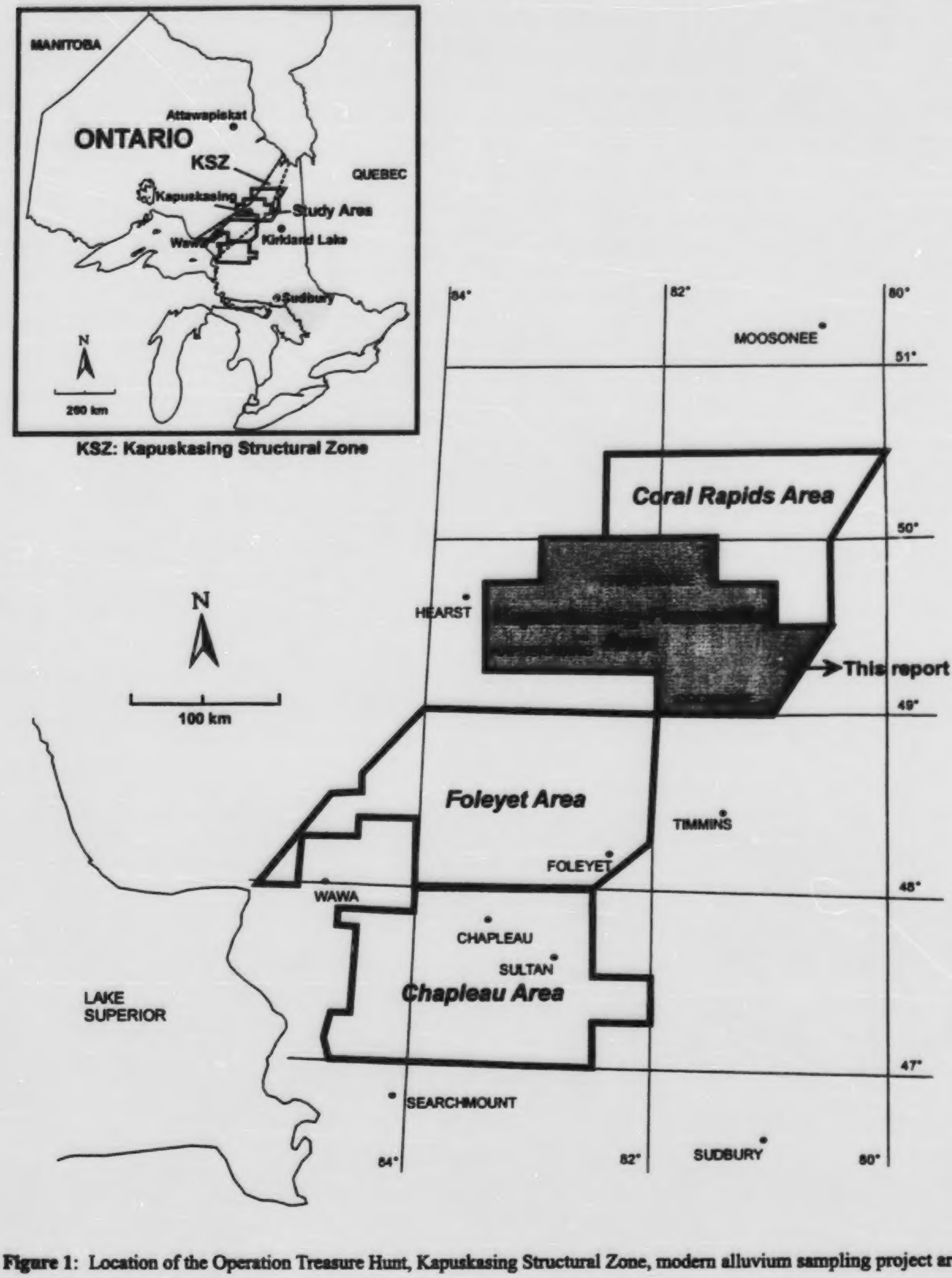
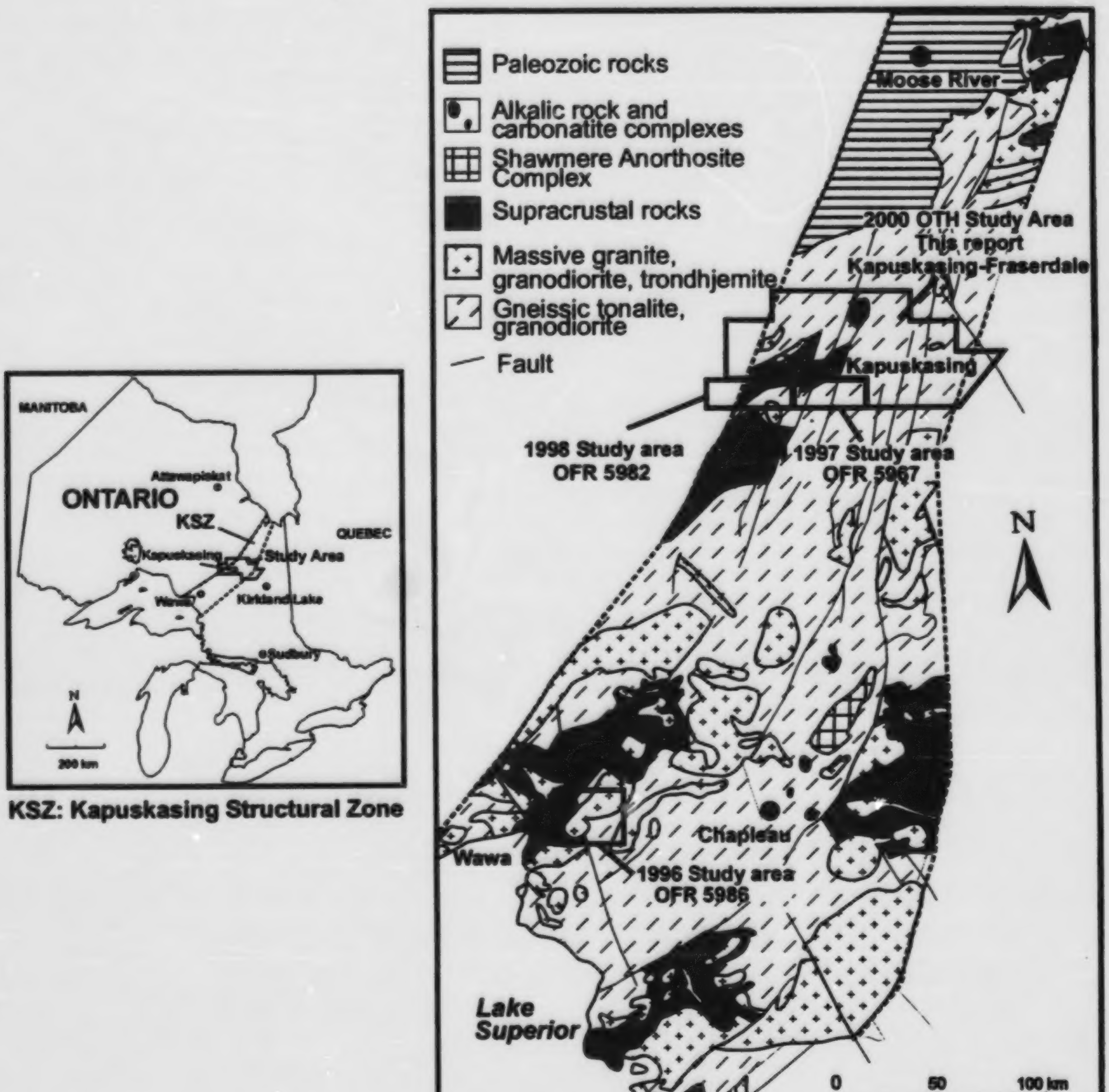
*MMSIM is a registered trademark of Overburden Drilling Management Limited, Nepean, Ontario


MANITOBA
Attawapiskat
ONTARIO
KSZ
QUEBEC
Kapuskasing
Study Area
Wawa
Kirkland Lake
Sudbury
N
200 km
84°
82°
80°
MOOSONEE
51°
Coral Rapids Area
50°
HEARST
N
This report
100 km
49°
Foleyet Area
TIMMINS
FOLEYET
48°
WAWA
CHAPLEAU
SULTAN
Chapleau Area
LAKE SUPERIOR
47°
SEARCHMOUNT
SUDBURY
84°
82°
80°

KSZ: Kapuskasing Structural Zone

Figure 1: Location of the Operation Treasure Hunt, Kapuskasing Structural Zone, modern alluvium sampling project areas.


Paleozoic rocks
Alkalic rock and carbonatite complexes
Shawmere Anorthosite Complex
Supracrustal rocks
Massive granite, granodiorite, trondhjemite
Gneissic tonalite, granodiorite
Fault
Moose River
2000 OTH Study Area
This report
Kapuskasing-Fraserdale
Kapuskasing
1998 Study area
OFR 5982
1997 Study area
OFR 5967
N
Chapleau
Wawa
1996 Study area
OFR 5986
Lake Superior
0
50
100 km
MANITOBA
Attawapiskat
ONTARIO
KSZ
QUEBEC
Kapuskasing
Study Area
Wawa
Kirkland Lake
Sudbury
N
200 km

KSZ: Kapuskasing Structural Zone

Figure 2: Locations of the 1996, 1997, 1998 and 2000 sampling programs and the approximate location of the Kapuskasing Structural Zone (KSZ)(Modified from Sage 1991).

Access to the area is accomplished through a network of roads namely, Highway 11 and a series of secondary roads. A helicopter, float plane and boat were used to access areas not covered by a road network.

PHYSIOGRAPHY

The study area is located north of the Great Lakes–Hudson Bay drainage divide in the districts of Cochrane and Hearst. All surface drainage flows northward into James Bay. Major river systems passing through the study area include; the Abitibi, Mattagami, Kapuskasing, Opasatika and Missinaibi rivers (Figure 4).

The topography in the area is typically that of a thickly drift–covered, continentally glaciated terrain. Eskers, drumlins and large–scale fluting are common topographic features of the region.

Regional Geology

The study area is located in the northern part of the northeast striking Kapuskasing Structural Zone (KSZ)(Figure 2). The thickness of overburden and amount of bedrock exposed within this area is highly variable (Bennett et al. 1967).

The KSZ is an elongate, 500 km, north to northeast trending structure transecting the Wawa (to the west) and Abitibi (to the east) sub–provinces within the Superior Province. It is fault bounded on the southeast, however, the western contact is complex and gradational (Percival and Card 1985). The KSZ extends from the east shore of Lake Superior to James Bay and is characterized by positive gravity and aeromagnetic anomalies. It comprises high metamorphic grade granulite and amphibolite facies paragneiss, tonalitic gneiss and anorthosite-suite gneiss that occur along a moderately northwest dipping crustal scale thrust fault attributed to an early Proterozoic event (Percival and McGrath 1986). Adjacent regions consist of low metamorphic grade metavolcanic-metasedimentary belts. The precise age of the KSZ is uncertain, however, supracrustal rocks have ages varying between 2550 and 2700 Ma reflecting deposition, intrusion, complex deformation, recrystallization and cooling during deep–crustal residence (Percival and West 1994).

A compilation of studies undertaken within the study area (Bennett et al 1967; Wolfe et al. 1975) shows that the bedrock geology is dominated largely by metasedimentary gneissic rocks (Figure 4). Other rock types occurring within the study area include: 1) the high grade rocks of the KSZ including migmatized supracrustal granulites and foliated and gneissic tonalites; 2) large batholiths of granitic intrusive rocks including; granodiorite, quartz monzonite, granite, granite pegmatite, and muscovite bearing granitic rocks; 3) mafic to ultramafic, mafic to intermediate and felsic to intermediate metavolcanic rocks; 4) mafic and ultramafic volcanic and felsic volcanic rocks; and 5) carbonatites. The age of bedrock in the area ranges from Precambrian to Cenozoic.

A Proterozoic magmatic event resulted in the emplacement of alkalic rocks (carbonatite complexes) and lamprophyre dikes, approximately 1022 to 1141 Ma ago, along the KSZ. (Sage 1991; Percival and Card 1985).

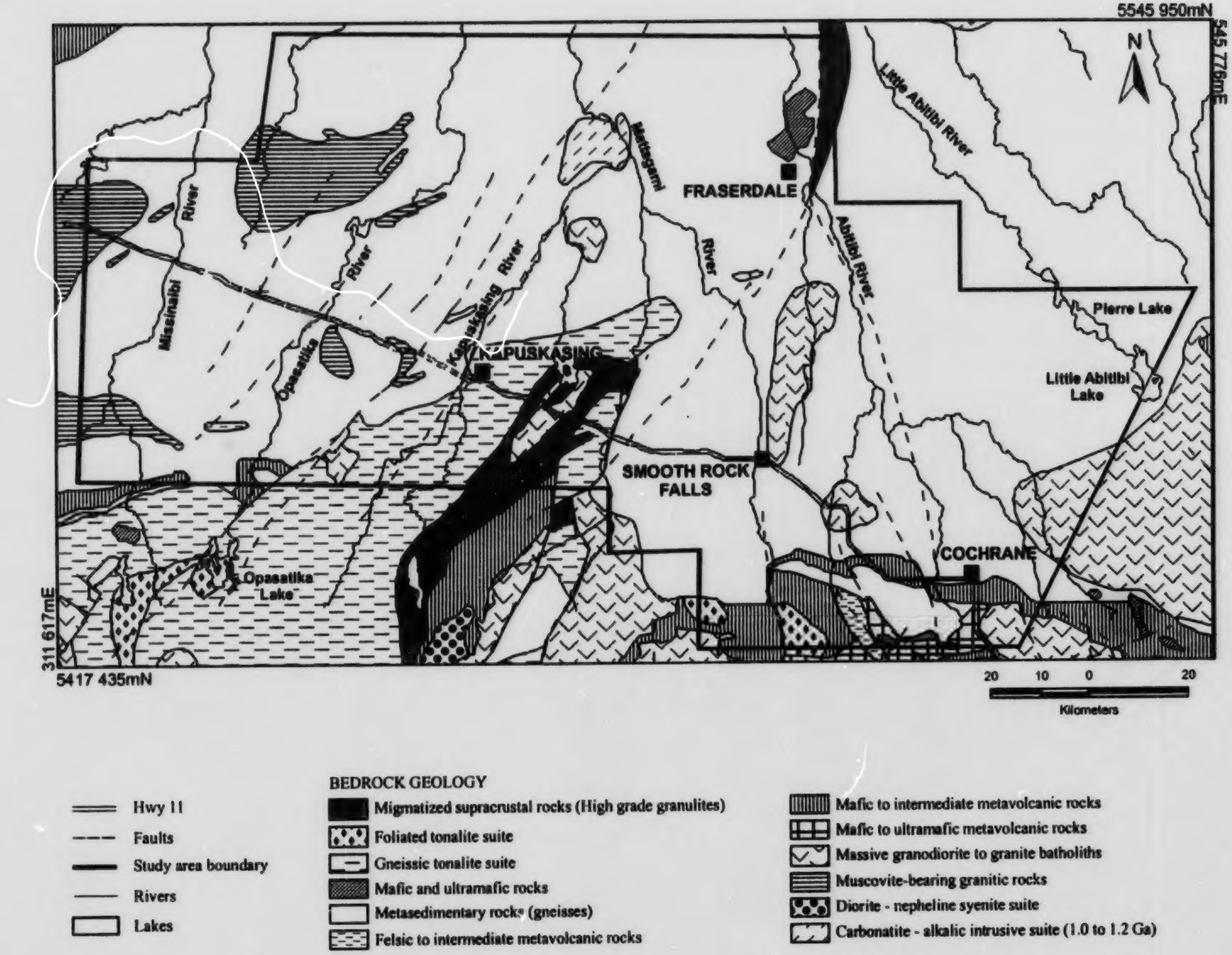

5545 950mN
545 776mE
N
Little Abitibi River
Abitibi River
FRASERDALE
Mattagami
River
Pierre Lake
Little Abitibi Lake
Missinaibi
River
Opasatika
River
Kapuskasing
River
KAPUSKASING
SMOOTH ROCK FALLS
COCHRANE
Opasatika Lake
311 617mE
5417 435mN
20
10
0
20
Kilometers
Hwy 11
Faults
Study area boundary
Rivers
Lakes
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)

Figure 4: Bedrock geology of the study area (Modified from Ontario Geological Survey 1991).

Carbonatite complexes are of economic interest because they are host rocks to phosphorus (from apatite), magnetite, niobium (pyroclore), zirconia, rare earth elements (monazite, the bastnäesite group) and other economic minerals such as fluorite, barite and strontianite. Many carbonatite complexes also show traces of copper, however, only one major producer of copper in the world is from a carbonatite alkalic complex (Palabora, South Africa)(Evans 1993). The carbonatite complex identified within the study area is the Clay Howells Complex, located 32 km west of Fraserdale (Figure 4). North of the study area, the Argor and Goldray carbonatite complexes are situated along faults within the northeast trending granulite zone (Wolfe et al. 1975) along with the Hecla-Kilmer alkalic complex and the Valentine Township carbonatite complex located within the Paleozoic rocks of the Moose River Basin (Sage 1991). The carbonatite zones all display close spatial relationships with major northeast-striking shear zones (Bennett et al. 1967).

Cretaceous lamprophyre has been reported from the northern part of the KSZ (Brown et al. 1967; Wanless et al. 1973; Percival and Card 1985; Wolfe et al. 1975) as have rocks of kimberlitic affinity located approximately 18 km north of the study area at Coral Rapids (Brown et al. 1967). However, Sage (1996) revealed that some of the showings were tested but proven not to be kimberlite. The Kapuskasing-Fraserdale study area is of interest for kimberlite exploration because deep crustal rocks (Boland and Ellis 1989) of the KSZ suggest the faults must extend to a significant depth and could have tapped into kimberlite magma (Morris, Crabtree and Averill 1998).

Overburden Geology

Surficial mapping in the study area has been completed at a regional scale (1:506 880) by Boissonneau (1966). More recently, the surficial geology for the area has been completed at a scale of 1: 1 000 000 by Barnett (1992).

Surficial sediments in the study area were deposited during the Late Wisconsinan glaciation (Morris, Crabtree et al. 1998). Four main overburden units were deposited during this time: till, debris flows, glaciofluvial and glaciolacustrine sediments. The most prominent surficial deposit found within the study area is a dense, massive, impervious clay-rich till that contains rounded pebbles (Bennett et al. 1967). The northeastern part of the study area is covered by varved clays, silts, organic deposits and glaciofluvial ice-contact deposits such as gravels, sands and minor till. The most northerly glaciofluvial deposit in the area (located at latitude 50°N in Pinard Township) forms a 100 km, east-trending ridge between the Little Abitibi and Mattagami rivers and represents the Pinard terminal moraine (Figure 5) (Boissonneau 1966; Wolfe et al. 1975). Barnett's (1992) Quaternary geology map also shows a series of south to southeast trending eskers and lateral moraines occurring mostly in the central and eastern parts of the study area (Figure 5). A more detailed description of surficial sediments occurring within the study area is provided in Barnett (1992).

GLACIAL HISTORY

Approximately 20 000 years ago, the study area was covered by the Laurentide ice sheet.
Evidence from glacial striae, eskers and drumlinoid features indicates a fan-shaped, regional ice flow ranging from southwesterly in the western part of the study area to southerly in the central part and southeasterly in the east (Boissonneau 1966).

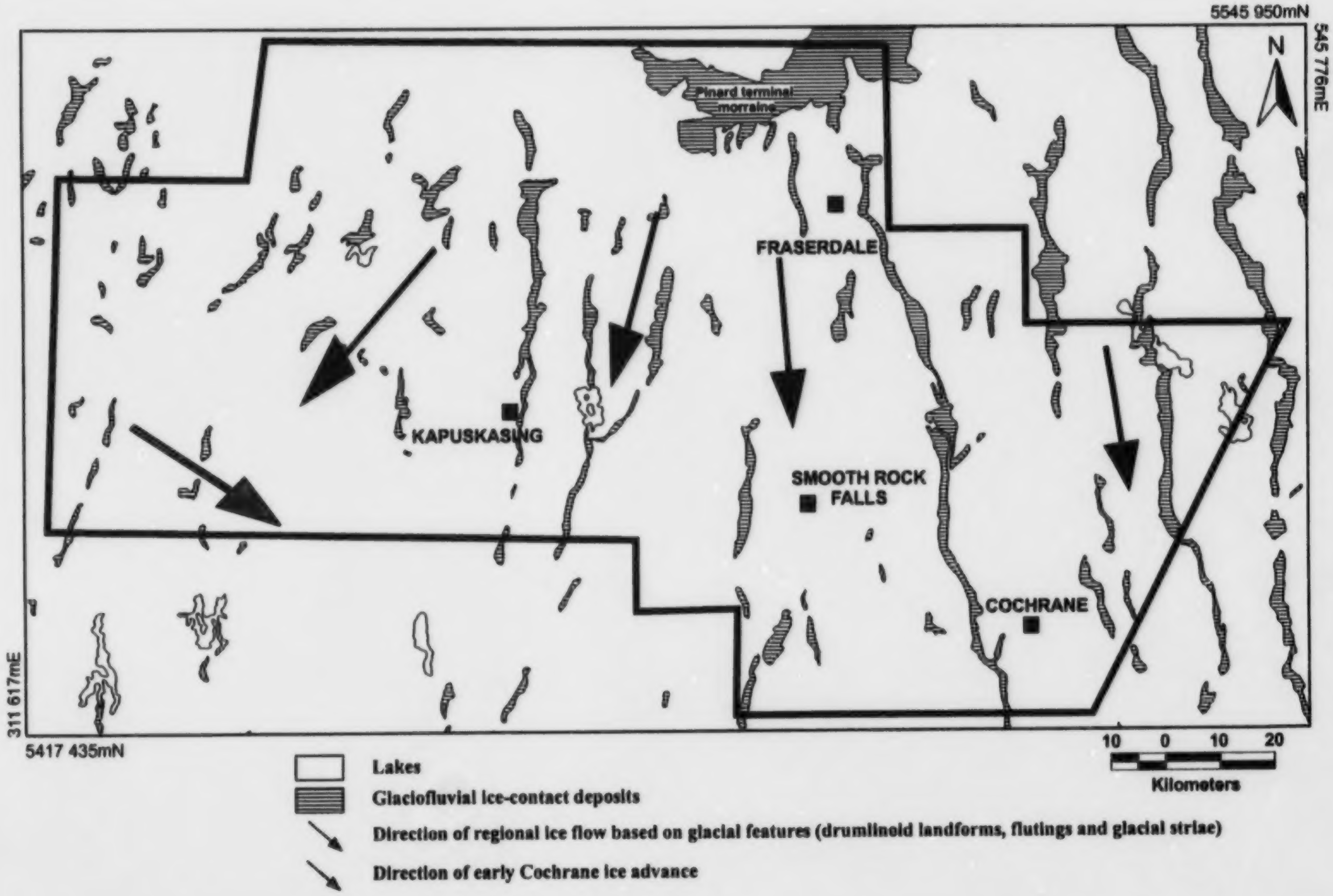

5545 950mN
545 776mE
N
Pinard terminal moraine
FRASERDALE
KAPUSKASING
SMOOTH ROCK FALLS
COCHRANE
311 617mE
5417 435mN
10 0 10 20
Kilometers
Lakes
Glaciofluvial ice-contact deposits
Direction of regional ice flow based on glacial features (drumlinoid landforms, flutings and glacial striae)
Direction of early Cochrane ice advance

Figure 5: Direction of early and late Cochrane ice advance. Ice flow indicators provide evidence of the approximate extent of the Early Cochrane ice advance (Boissoneau 1966) as well as regional direction of ice flow for the Late Cochrane phase (Modified from Barnett et al. 1991).

According to Boissonneau (1966), eskers were deposited by south to southeast flowing subglacial streams during the early (Wisconsinian) phase of glaciation. A subsequent readvance overrode the eskers and later modification occurred by wave action and sedimentation in post-glacial lakes (Wolfe et al. 1975). Retreat of the ice margin northward, approximately 10 000 years ago, was fronted by a large glacial lake. This lake, known as Lake Ojibway is represented by the extensive deposits of glaciolacustrine and glaciofluvial sediments that are found in the area (Baker 1985; McClenaghan et al. 1998). The ice front remained stationary in the northern part of the study area for a short period of time, forming the Pinard recessional moraine (Figure 5), then withdrew farther north. A second ice mass (named the early Cochrane phase) advanced in a southeasterly direction over the study area. This advance capped the eskers, moraines and proglacial lake sediments and formed a series of southeasterly trending drumlinoid features. The ice from this advance wasted away, except for a large ice block that remained in the southwestern part of the study area. Evidence for this ice block is obtained from the orientation and presence of glacial features that indicate ice flow direction to the east-south-east (Figure 5). A second readvance of the Cochrane ice sheet (named the late Cochrane phase) was also fan shaped and advanced in a southerly to southeasterly direction. Ice advance was stopped along the east and north sides of the ice block that remained from the early Cochrane phase. Retreat of the ice mass after the second readvance was rapid since there is no evidence of extensive lake deposits related to the late Cochrane phase in the area (Boissonneau 1966).

Material Sampling

For this study, modern alluvium was chosen as the primary sampling media as it is commonly used as a means of gaining a fast, relatively inexpensive heavy mineral signature for individual drainage basins. The heavy mineral signature obtained from modern alluvium is a product of the erosion of both bedrock and overburden, and the subsequent transportation and deposition of the eroded material. A more detailed discussion of the controls on these processes can be found in Morris (1995a), Morris and Kaszycki (1997) and Morris et al. (1994).

A private vendor under contract to the Ontario Geological Survey (OGS) carried out the fieldwork and sampling for this survey. Standard OGS sampling methodologies were utilized (see Morris and Kaszycki 1997, Morris, Crabtree and Pianosi 1997, Stephenson et al. 1999) and OGS staff monitored adherence to these protocols. Overburden Drilling Management located in Nepean, Ontario processed the samples and microprobe work was completed at the Ontario Geoscience Laboratory in Sudbury, Ontario.

Heavy Mineral Recovery and Identification

A total of 507 samples collected from the Kapuskasing-Fraserdale area were submitted for heavy mineral concentrate analysis. Samples were processed for gold grain, KIM, and MMSIM® content as indicated in Figure 6.

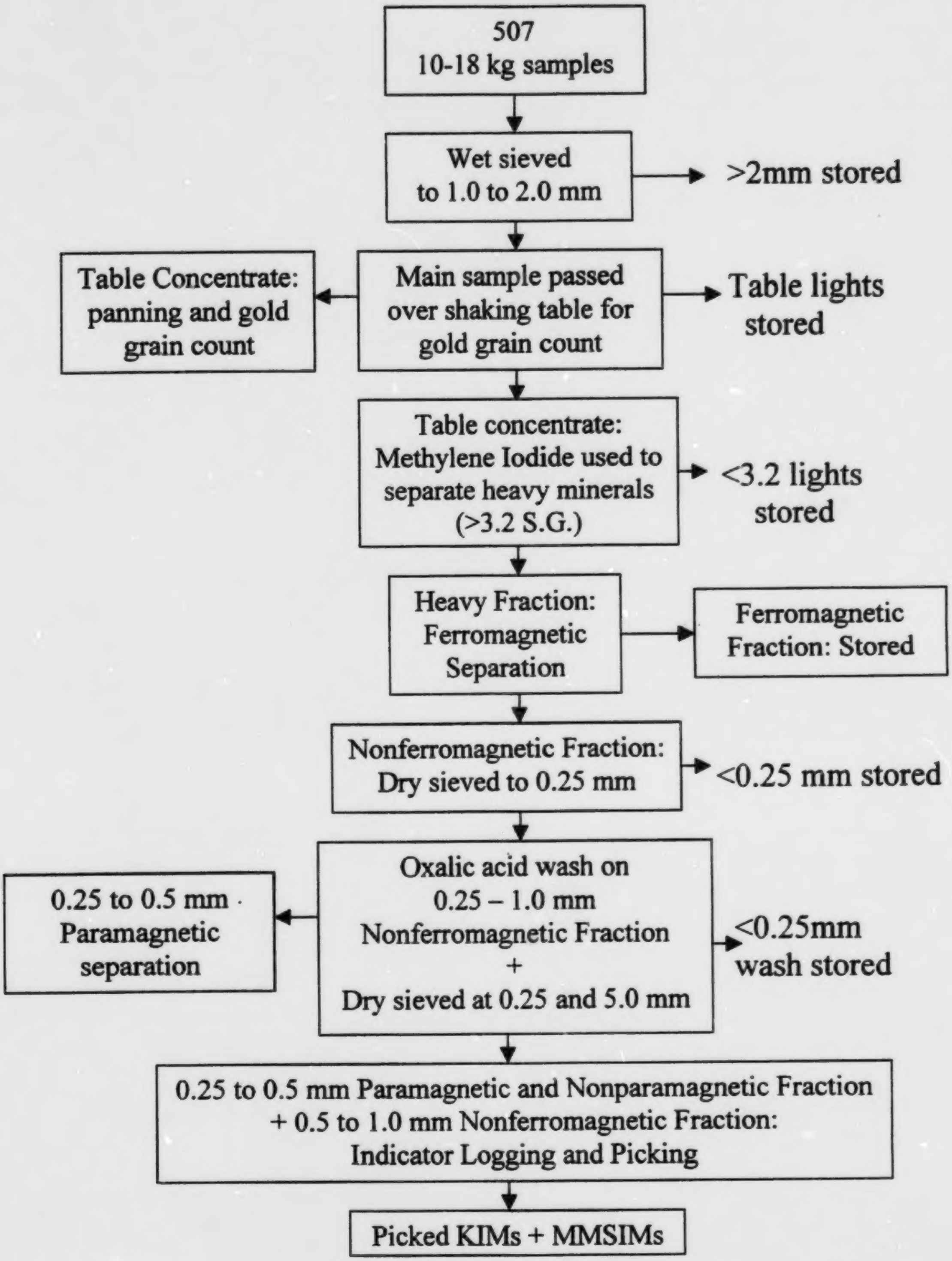

507
10-18 kg samples
Wet sieved
to 1.0 to 2.0 mm
>2mm stored
Table Concentrate:
panning and gold
grain count
Main sample passed
over shaking table for
gold grain count
Table lights
stored
Table concentrate:
Methylene Iodide used to
separate heavy minerals
(>3.2 S.G.)
<3.2 lights
stored
Heavy Fraction:
Ferromagnetic
Separation
Ferromagnetic
Fraction: Stored
Nonferromagnetic Fraction:
Dry sieved to 0.25 mm
<0.25 mm stored
0.25 to 0.5 mm
Paramagnetic
separation
Oxalic acid wash on
0.25 – 1.0 mm
Nonferromagnetic Fraction
+
Dry sieved at 0.25 and 5.0 mm
<0.25mm
wash stored
0.25 to 0.5 mm Paramagnetic and Nonparamagnetic Fraction
+ 0.5 to 1.0 mm Nonferromagnetic Fraction:
Indicator Logging and Picking
Picked KIMs + MMSIMs

Figure 6: Heavy mineral sample processing flow chart. (Modified from Averill 1998)

In the lab, the 10 to 18 kg field samples were disaggregated, if needed, and sieved to remove the +10 mesh (+2 mm) size fraction. The entire –10 mesh size fraction was then passed across a shaker table twice to produce a rough heavy mineral concentrate. Samples, in which a pre-determined number of gold grains were seen during shaker table processing, have the heavy mineral (table) concentrate refined by hand or mechanical panning to concentrate all contained gold grains and associated pathfinder minerals. Following panning (if required), the tabled heavy mineral separates underwent a heavy liquid separation. The specific gravity of the heavy liquid used during this procedure is 3.2. Following heavy liquid separation the magnetic minerals were separated using an automagnet. The paramagnetic fractions (weakly, moderately, strongly and nonparamagnetic fractions) were isolated using appropriate methodology. The final heavy mineral concentrate (HMC) was sieved to obtain 4 size fractions (<0.25, 0.25–0.5, 0.5–1.0, and 1.0–2.0 mm), each of which were weighed and placed in vials. Indicator mineral picking was then performed on the 0.25–0.5, 0.5–1.0 and 1.0–2.0 mm size fractions (Appendix B). A scanning electron microscope was then used to confirm/check any questionable picked grains and to determine the geochemistry of the grains (Dyer 2000). Microprobe analysis was then performed on all of the picked kimberlite indicator mineral grains.

Kimberite and Diamond Potential of the Study Area

To date, 3 areas within northeastern Ontario have been determined to contain occurrences of diamondiferous kimberlite: 1) the Kirkland Lake–Cobalt area; 2) the Attawapiskat and Missisa Lake regions in the James Bay lowland; and 3) the Wawa region. Kimberlite pipes in these areas are deeply weathered and covered with glacial sediments and more recent deposits. Kimberlite indicator minerals have also been recovered in numerous areas of Ontario including the Wawa region (Morris 1994a, 1994b, 1995a, 1995b, 1996a, 1996b, 1997a, 1997b; Morris et al. 1994; Morris, Crabtree and Pianosi 1997; Morris, Crabtree et al. 1998), perhaps in association with the northeast trending Kapuskasing Structural Zone (KSZ) (Sage 1996).

Certain geologic and geotectonic characteristics defined by Helmstaedt and Gurney (1995) and Helmstaedt and Shultze (1995) make the Kapuskasing-Fraserdale area an attractive region for diamond exploration. First, the Archean-aged Superior Province and the KSZ are restricted to ancient cratons where the low-density peridotitic root remains insulated against reheating and excessive tectonic reworking. Secondly, the adherence of the root to the craton during subsequent plate motions allows for diamond preservation within subsidiary structures associated with major tectonic events and/or geophysical anomalies (Coopersmith 1993). Finally, Ontario kimberlites tend to occur in clusters along northwest trending structures of approximately 325° and at points where northwest-trending structures are crossed obliquely by faults, lineaments and major lithologic breaks (Sage 1996).

Data Plotting Parameters

The proportional dot diagrams in this report illustrate the relative abundance of indicator minerals and their locations throughout the study area. These diagrams are based on statistics that involve calculating percentiles. The largest dots on the diagrams represent sites having indicator mineral concentrations with values greater than the 95th percentile. Sites with these values are considered anomalous and are significant.

Tables and appendices for this study demonstrate the data as “raw data” and/or “normalized data”. For this report, “raw data” refers to the actual number of grains picked from each sample whereas “normalized data” refers to a calculated value where data was normalized by table weight feed against 15 kg (see Appendix H). The proportional dot diagrams for all minerals in this study, except for gold, display the results as normalized data. The proportional dot diagram for gold displays the raw data. This was done in order to compare data from this study with results from the Wawa and Kinniwabi Lake projects (Morris 1994b, 1997b) and other Kapuskasing Structural Zone projects (Morris 1998, Stephenson 1999).

Kimberlite Indicator Minerals (KIMs)

The search for diamond-bearing kimberlite pipes using indicator minerals commonly begins with the location and definition of indicator mineral dispersion patterns (Sage 1996). KIMs are a suite of heavy minerals related to kimberlite or lamproite, potential host rocks for diamonds. KIMs found within surficial materials such as tills, soils or modern alluvium, can be used to trace bedrock sources up-stream and/or up-ice from where the indicators were discovered. However, caution is advised in tracing the origin of KIMs within the Kapuskasing-Fraserdale study area because mineral grains have not had a straight forward journey to their points of discovery. They have been subjected to many types of transport, in a number of directions, by successive stages of glacial, glaciofluvial and alluvial activity (Wolfe et al 1975).

For this reason, a full investigation of kimberlite indicator minerals should be completed because potential kimberlites can be missed if prospecting focuses on only certain indicator mineral grains (Sage 2000). Therefore, one should look at: 1) strong KIM signatures; 2) the presence of more than one KIM type; 3) mineral characteristics such as shape, mineral inclusions and elemental content; and 4) the characteristics of the surrounding region from where the anomaly occurs (e.g., whether any major faults intersect in the region or if there are significant aeromagnetic anomalies or "bull's eyes" in the area).

In general, garnet, chromite and ilmenite are good indicator minerals for use in modern alluvium surveys because they travel well, are resistant to weathering and may have chemical compositions exclusive to kimberlite (Sage 1996). In contrast, olivine and phlogopite are poor indicator minerals because they weather quickly, do not transport readily and do not have compositions exclusive to kimberlite (Sage 1996). However, the latter minerals can be useful in diamond exploration when found in conjunction with other indicator minerals.

Within the Kapuskasing-Fraserdale study area, kimberlite indicator minerals have previously been identified in heavy mineral concentrates obtained from samples of alluvial gravel collected by the Selco Exploration Company. Samples were collected in the Moose River drainage basin along the Mattagami, Abitibi, Little Abitibi, North French, and Moose rivers (Brown et al. 1967). Kimberlite indicator minerals have also been discovered within alluvial gravels, eskers and modern alluvium in the northern part of the study area (Wolfe et al. 1975). More recent studies by Morris, Crabtree and Averill (1998) and Stephenson et al. (1999) recovered indicator minerals immediately south of the Kapuskasing-Fraserdale study area (Figure 2). Findings from these surveys suggest an indicator mineral relationship to NW-SE and NE-SW crosscutting structures and a pronounced NE trend in the bedrock associated with the southern part of the Kapuskasing Structural Zone (Morris, Crabtree and Averill 1998).

INDICATOR MINERALS

Common kimberlite indicator minerals found within the Kapuskasing-Fraserdale study area include peridotitic Cr-pyrope garnets, megacrystic Cr-poor pyrope garnets, crustal eclogitic pyrope-almandine garnets, Cr-diopsides, Mg-rich ilmenites, chromites and forsteritic olivines. Summary statistics for all KIMs are recorded in Appendix C. Geochemistry for all KIM grains is recorded in Appendix D in Miscellaneous Release Data (MRD) 68 (Ontario Geological Survey 2001), available separately from this report.

GARNET

Garnets occur in many types of peridotites but the most important are harzburgite and lherzolite (Stephenson et al. 1999). Commonly, most garnets from harzburgite peridotites ("G10" garnets) are associated with diamonds and are characterized by Ca depletion and Cr enrichment (Gurney 1984). This strong association of harzburgitic "G10" garnets with diamonds suggests that they are more important than "G9" garnets of lherzolitic origin (Dawson and Stephens 1975).

Eclogitic garnets are other KIMs. They are Cr-poor and range from pyrope to almandine-pyrope in composition (Stephenson et al. 1999). Diamondiferous eclogitic garnets typically have Na_2O concentrations greater than 0.07% (Fipke et al. 1995) in conjunction with generally low TiO_2 values. Eclogitic garnets with low Na concentrations are not associated commonly with diamonds but may be useful indicators if found with other KIMs (Stephenson et al. 1999). Garnets containing higher TiO_2 values (>0.4 wt%) in conjunction with low Na values and low levels of Cr (<2 wt%) are of the megacrystic suite. The megacrysts or "discrete nodule" suite of garnets are believed to be high-pressure cognate (magmatic) phases crystallized from primitive kimberlitic melts (Mitchell 1986).

Microprobe analysis of 72 garnet grains submitted to the Geoscience Laboratories revealed the presence of 65 "G9" Cr-pyrope garnets and 1 "G10" Cr-pyrope garnet (00KAP-1841-01) of peridotitic origin (Figure 7A). The line distinguishing "G9" from "G10" garnets on the Cr_2O_3-CaO wt% diagram is referred to as the 85% line by Fipke et al. (1995). All grains plotting within the 15% marginal error zones (indicated by the dotted line) must be considered with caution. The "G10" garnet grain recovered in this study is very significant because it plots beyond the 15% line. The remaining 6 eclogitic garnet grains were plotted on Fipke et al.'s (1995) TiO_2-Na_2O wt% diagram (Figure 7B). Two of these grains classified as megacrystic (00KAP-1785-03 and 00KAP-2307-01) and 4 classified as Group II eclogites (00KAP-1625-01, 00KAP-1794-01, 00KAP-2244-04 and 00KAP-2320-01). No grains plotted within the Group I eclogite field. Low concentrations of kimberlite indicator garnets within individual samples may suggest that rivers are sampling an already dilute source of garnets or that garnets have been derived from a source located outside of the study area.

Other grains identified in this study include almandine, uvarovite and grossular garnet. These are not likely associated with kimberlite and are of little interest to kimberlite exploration. Summary statistics and weight percent geochemistry for all garnet grains is listed in Appendix C, and in Appendix D of MRD 68 (Ontario Geological Survey 2001).

The proportional dot diagram for kimberlite indicator garnets shows 5 areas and 6 individual sample sites where anomalous values of "G9", "G10", eclogitic and/or megacrystic garnets exist (Figure 8). These areas are: 1) the Hilmer-Weichel area: located in the northwestern corner of the study area (samples 00KAP-1835, 00KAP-1836, 00KAP-1841 and 00KAP-1845); 2) the Missinaibi area: located in the far western part of the study area, north-west of Kapuskasing (samples 00KAP-1721 and 00KAP-1723); 3) the Parnell area: located far west of Kapuskasing (samples 00KAP-1690 and 00KAP-1785); 4) the Cumming-Gill area: located west of Kapuskasing (samples 00KAP-1599, 00KAP-1747, 00KAP-1856); and 5) the Gardner area: located north of Cochrane (samples 00KAP-1502, 00KAP-2244 and 00KAP-2311). Several of the individual sample sites yielding interesting garnets include: samples 00KAP-1528, 00KAP-1596, 00KAP-1812, 00KAP-1861, 00KAP-2029 and 00KAP-2329. All data within Figure 8 has been normalized to table weight feed against 15 kg.

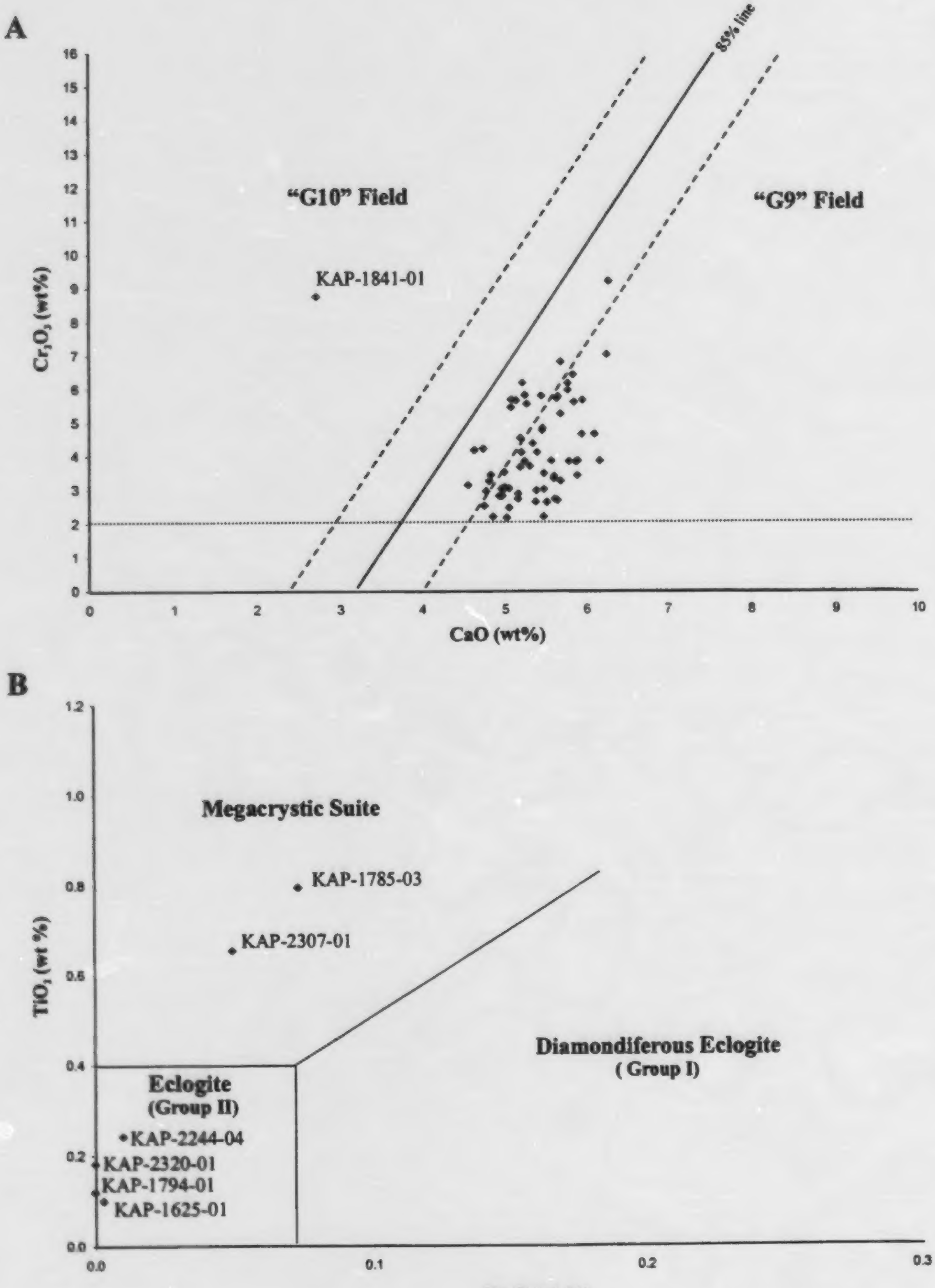


Figure 7: Garnet Cr_2O_3-CaO and TiO_2-Na_2O plots. A) "G10" and "G9" Cr-pyrope garnet Cr_2O_3-CaO plot (after Dawson and Stephens 1975). B) eclogitic garnet TiO_2-Na_2O plot (after Fipke et al. 1995).

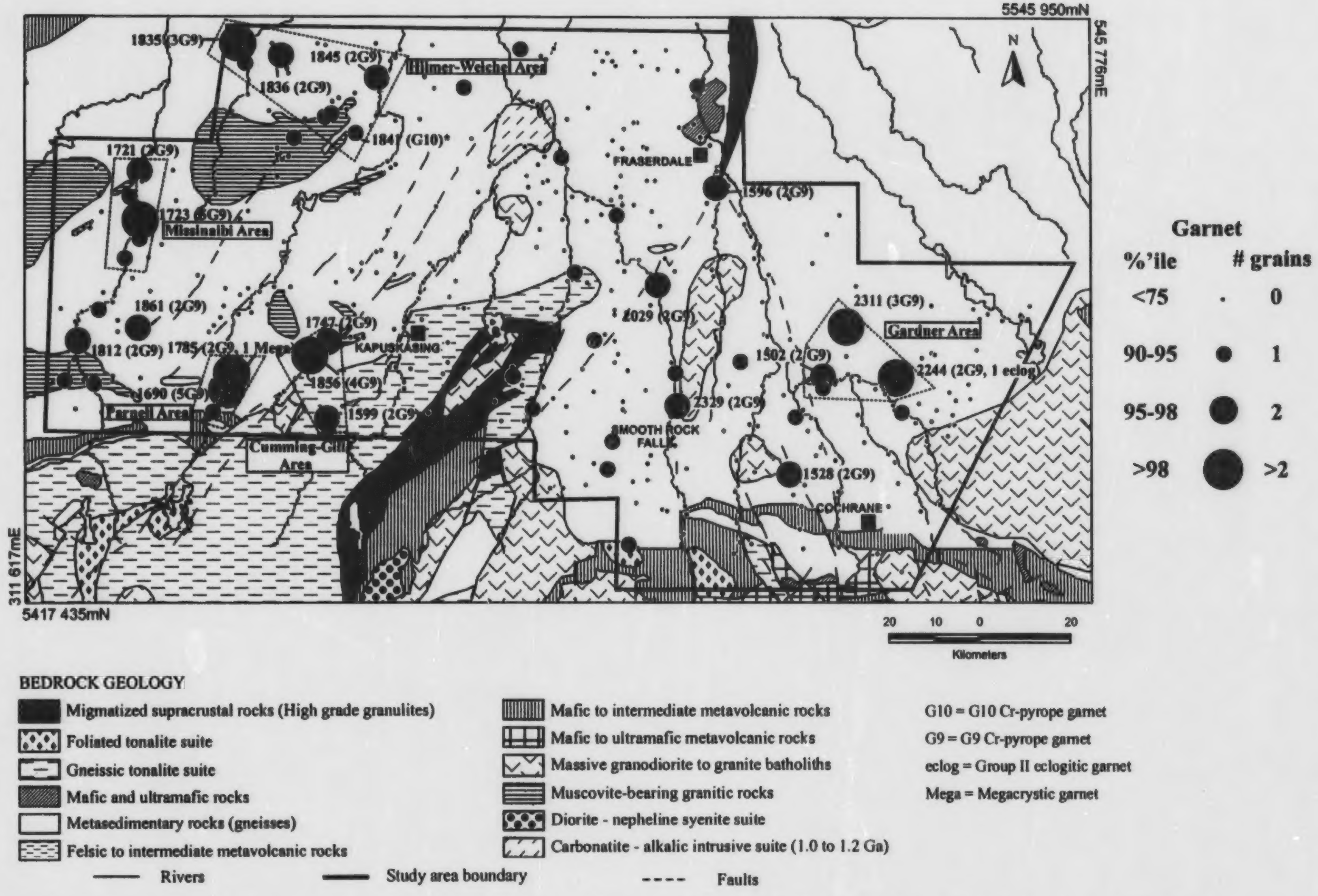

5545 950mN
545 776mE
311 617mE
5417 435mN
N
1835 (3G9)
1845 (2G9)
1836 (2G9)
Hilmer-Welchel Area
1841 (G10)*
1721 (2G9)
1723 (6G9)
Missinaibi Area
1861 (2G9)
1812 (2G9)
1785 (2G9, 1 Mega)
1747 (2G9)
KAPUSKASING
1856 (4G9)
1690 (5G9)
Parnell Area
1599 (2G9)
Cumming-Gill Area
FRASERDALE
1596 (2G9)
2029 (2G9)
1502 (2G9)
2329 (2G9)
SMOOTH ROCK FALLS
1528 (2G9)
COCHRANE
2311 (3G9)
Gardner Area
2244 (2G9, 1 eclog)
20 10 0 20
Kilometers
Garnet
%'ile
# grains
<75
0
90-95
1
95-98
2
>98
>2
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
G10 = G10 Cr-pyrope garnet
G9 = G9 Cr-pyrope garnet
eclog = Group II eclogitic garnet
Mega = Megacrystic garnet
Rivers
Study area boundary
Faults

Figure 8: Regional distribution of kimberlite indicator garnet grains based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number and type of kimberlite indicator grain.

Cr- pyrope "G9" and "G10" garnets have also been recovered from modern alluvium south of the Kapuskasing-Fraserdale study area (Morris, Crabtree and Averill 1998 and Stephenson et al. 1999) and north of the study area, along the Little Abitibi River (Wolfe et al. 1975).

CHROMITE

It is difficult to classify chromites as kimberlite indicator minerals because of their presence in many different rock types. Compositional overlap is inevitable. The wt% Cr_2O_3-TiO_2 chromite discriminant diagram is used in kimberlite exploration to determine whether chromites originate from kimberlites and lamproites or non-kimberlites and lamproites (Fipke et al. 1995). Chromite grains plotting in the overlap field of Fipke et al.'s (1995) Cr_2O_3-TiO_2 diagram are from an unknown source. However, grains plotting in this field may still be from kimberlite sources and are therefore included in the KIM database (Appendix C).

A second diagram used by Fipke et al. (1995) is the Cr_2O_3-MgO wt% discriminant diagram. A chromite grain plotting in the "diamond inclusion field" on a wt % Cr_2O_3 -MgO diagram is as significant as finding a "G10" garnet. These chromites are characterized by a Cr_2O_3 content greater than 61 wt% (Gurney 1984) and an MgO content greater than 10 wt% (Fipke et al. 1995).

Chromite is very plentiful within the Kapuskasing-Fraserdale study area. A total of 1388 chromite grains were recovered. Caution must be exercised with chromite grains from this area because most grains are well worn and rounded indicating that they are likely derived from the mature Cretaceous sands of the Moose River Basin. Other minerals within samples collected from the study area suggesting provenance from these sands are; rounded almandine grains, magnetite, hematite and carbonate pebbles. The presence of these grains indicates major glacial input from the Moose River Basin (Wolfe et al. 1975). The Moose River Basin sediments were deposited during the Devonian era at approximately the same time as possible kimberlitic volcanism occurred in the area (Wolfe et al. 1975). Therefore, some of these grains could be derived from kimberlites. For this reason, usual OGS chromite classification is used in this report.

One thousand three hundred eighty-eight chromite grains were submitted to OGL for microprobe analysis Appendix D of MRD 68, (Ontario Geological Survey 2001). One plotted in the diamond inclusion field of the Fipke et al. (1995) MgO-Cr_2O_3 diagram (00KAP-1892-08) (Figure 9A) and 2 plotted in the diamond inclusion field of the Fipke et al. (1995) TiO_2-Cr_2O_3 wt% diagram (samples 00KAP-1846-18 and 00KAP-1892-08) (Figure 9B). One of the grains that plotted in the diamond inclusion field of the TiO_2-Cr_2O_3 wt% diagram (00KAP-1846-18) has a MgO value too low to be a significant diamond inclusion field chromite. The other grain (00KAP-1892-08) contains a Cr_2O_3 value slightly lower than 61 wt%, however is still considered to be a significant diamond inclusion field chromite. Of the remaining 1386 chromite grains, 27 plotted in the field unique to kimberlites and lamproites, 1260 plotted in the overlap field and 98 in the non-kimberlitic/lamproitic field of the Fipke et al. (1995) TiO_2-Cr_2O_3 wt% diagram (Figure 9B). Weight percent geochemistry for all chromite grains is listed in Appendix D of MRD 68 (Ontario Geological Survey 2001).

The association of chromite with other kimberlite indicator minerals and mineral inclusions within chromites can provide good indications that chromite grains have been derived from kimberlite. Within this study, chromites contain inclusions of amphibole (significant samples 00KAP-1844 and 00KAP-1973), serpentine (significant sample 00KAP-1845), feldspar (significant sample 00KAP-1846), plagioclase (significant sample 00KAP-1844), mica (significant samples 00KAP-1845, 00KAP-1861, 00KAP-1880 and 00KAP-2307) and calcite as well as inclusions of other kimberlite indicator minerals such as Cr-diopside (significant samples 00KAP-1856 and 00KAP-1973), forsterite (significant samples 00KAP-2307 and 00KAP-2358) and orthopyroxene (significant samples 00KAP-1827, 00KAP-1836 and 00KAP-1856) (Appendix D of MRD 68 (Ontario Geological Survey 2001)). The latter inclusions may be significant for kimberlite exploration.

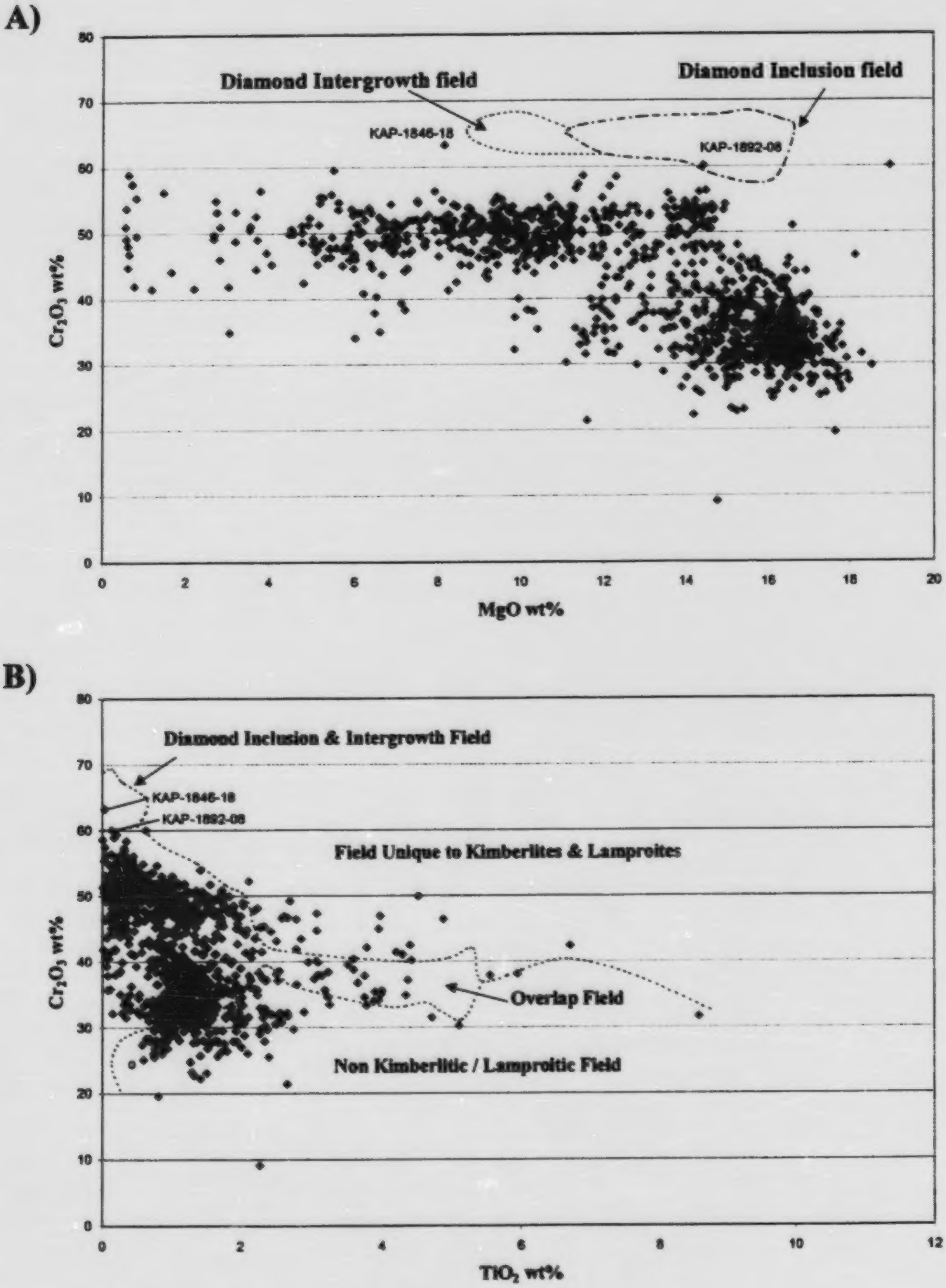


Figure 9: Chromite plots. A) Chromite Cr_2O_3-MgO plot. B) Chromite Cr_2O_3-TiO_2 plot. (After Fipke et al. 1995)

Figure 10, a proportional dot diagram, shows 3 areas and several individual sites that contain elevated numbers of chromite grains. These areas include 1) the Hilmer-Weichel area (samples 00KAP-1827, 00KAP-1836, 00KAP-1844, 00KAP-1845, 00KAP-1846, 00KAP-1880 and 00KAP-1892); 2) the Fraserdale area (samples 00KAP-1625 and 00KAP-1629); and 3) the Gardner area (samples 00KAP-1508, 00KAP-1511, 00KAP-1707, 00KAP-2284, 00KAP-2307, 00KAP-2312, 00KAP-2345, 00KAP-2358, 00KAP-2405 and 00KAP-2756). Note that 1 chromite grain in each of the 00KAP-2307 and 00KAP-2358 samples located within the Gardner area contain forsteritic olivine inclusions. As well, sample 00KAP-1511 within the Gardner area yielded coarse, unworn chromite along with considerable Mg-ilmenite.

Mg-ILMENITE

Ilmenites found within kimberlites generally contain MgO values between 4 and 15 wt% (McCallum and Vos 1993). These ilmenites are especially considered useful kimberlite indicator minerals (Morris and Kaszycki 1997) when found in conjunction with other KIMs. However, caution must be taken when analyzing these grains because other mafic and ultra-mafic alkaline rocks also exhibit Mg-ilmenite with these compositions.

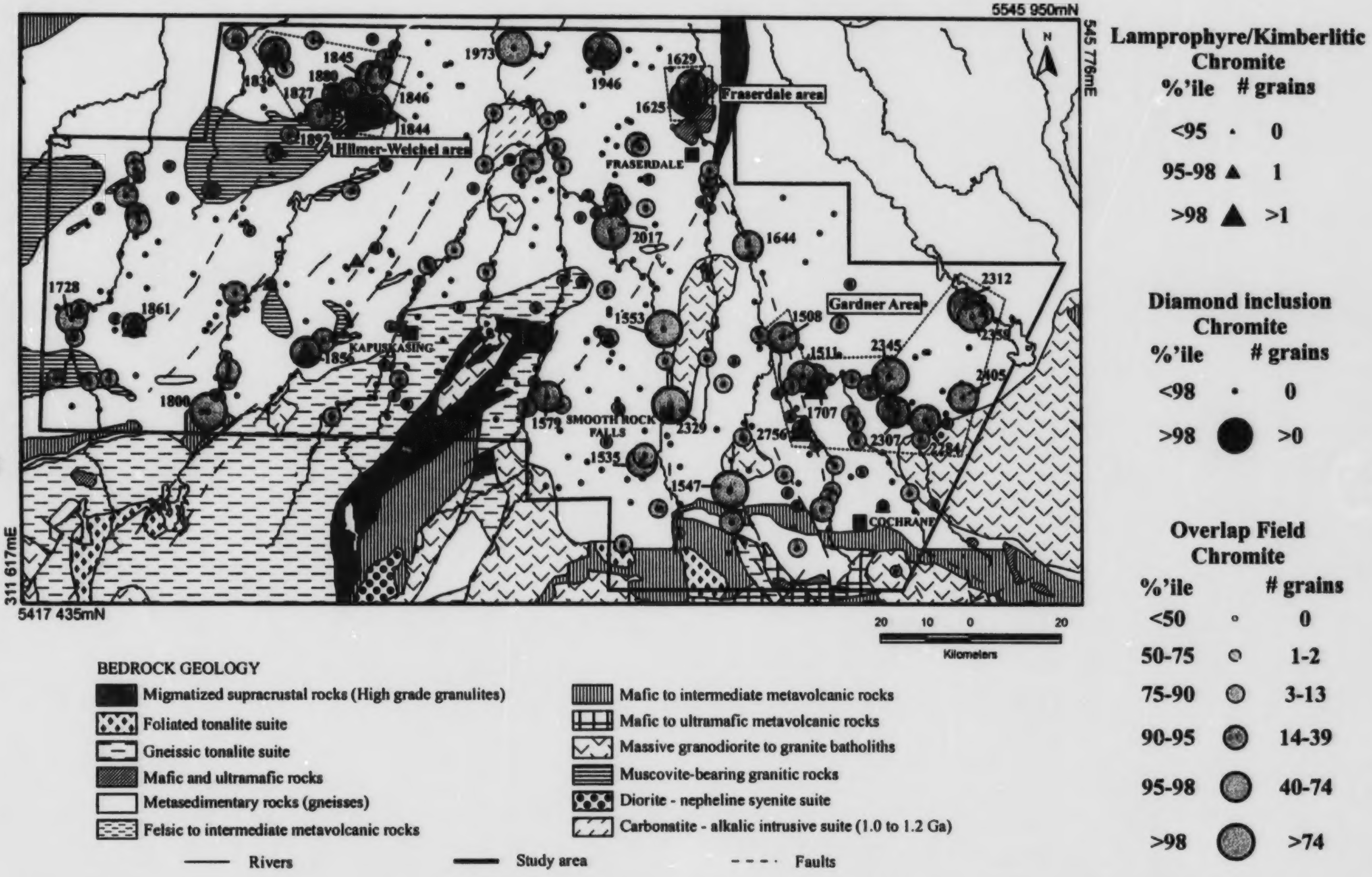
A total of 499 Mg-ilmenite grains underwent microprobe analysis. Three hundred and ten grains contained MgO contents between 4-15 wt%. These grains were included in the KIM dataset (Appendix C). Geochemistry for all KIM ilmenite grains is listed in Appendix D of MRD 68, (Ontario Geological Survey 2001). The 310 ilmenite grains were plotted on Gurney and Moore's (1991) Mg-ilmenite parabolic plot in order to determine whether they originated from a reducing environment (favorable for diamond preservation within the magma) or from an oxidizing environment (conducive to diamond resorption into the magma) (Figure 11).

Figure 12, a proportional dot diagram, shows 3 areas and several individual sites containing anomalous kimberlite indicator ilmenite values. These areas are 1) the McKnight-Weichel area (samples 00KAP-1825, 00KAP-1827, 00KAP-1844, 00KAP-1845, 00KAP-1846, 00KAP-1877, 00KAP-1893 and 00KAP-1894); 2) the Missinaibi area (samples 00KAP-1721, 00KAP-1723, 00KAP-1725, 00KAP-1821 and 00KAP-1820); and 3) the Parnell-Cumming area (samples 00KAP-1782, 00KAP-1785, 00KAP-1800 and 00KAP-1856).

Cr-DIOPSIDE

Cut off values of 1.45 wt % Cr_2O_3 (Stephens and Dawson 1977) and 0.5 wt% Cr_2O_3 (Thorleifson and Garrett 1993) have been used to identify Cr-diopsides of potential kimberlitic affinity. However, Cr-diopsides with these compositions are found in both megacrystic and groundmass phases within kimberlites as well as in basic and ultramafic rocks (Morris et al. 1999). For this reason, on its own Cr-diopside is not a good indicator mineral and has to be found in conjunction with other kimberlite indicator minerals to be useful.

Recently, a new classification of Cr-diopsides developed by Morris et al. (1999) has proven to be an excellent way of discriminating between Cr-diopsides derived from kimberlite vs. other sources using a Cr_2O_3, Al_2O_3 and Na_2O molecular wt % ternary plot. This plot has been tested on kimberlites and other rock types and seems to isolate Cr-diopsides associated with kimberlites. It is useful in differentiating Cr-diopside derived from a deep mantle source as opposed to a shallow crustal source, and is a far better discriminator of Cr-diopsides derived from kimberlite than from previous methods cited in the literature (Morris et al. 2000).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545 776mE
311 617mE
5417 435mN
N
1836
1845
1880
1827
1846
1844
1892
Hilmer-Welchel area
1973
1946
1629
1625
Fraserdale area
FRASERDALE
2017
1644
1728
1861
KAPUSKASING
1856
1800
1553
1579
SMOOTH ROCK FALLS
1535
2329
1547
1508
Gardner Area
1511
2345
2312
2359
2405
1707
2756
2307
2784
COCHRANE
20
10
0
20
Kilometers
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults
Lamprophyre/Kimberlitic Chromite
%'ile
# grains
<95
0
95-98
1
>98
>1
Diamond inclusion Chromite
%'ile
# grains
<98
0
>98
>0
Overlap Field Chromite
%'ile
# grains
<50
0
50-75
1-2
75-90
3-13
90-95
14-39
95-98
40-74
>98
>74

Figure 10: Regional distribution of chromite grains. Note that this data has been normalized to table weight feed and includes the estimated number of grains.

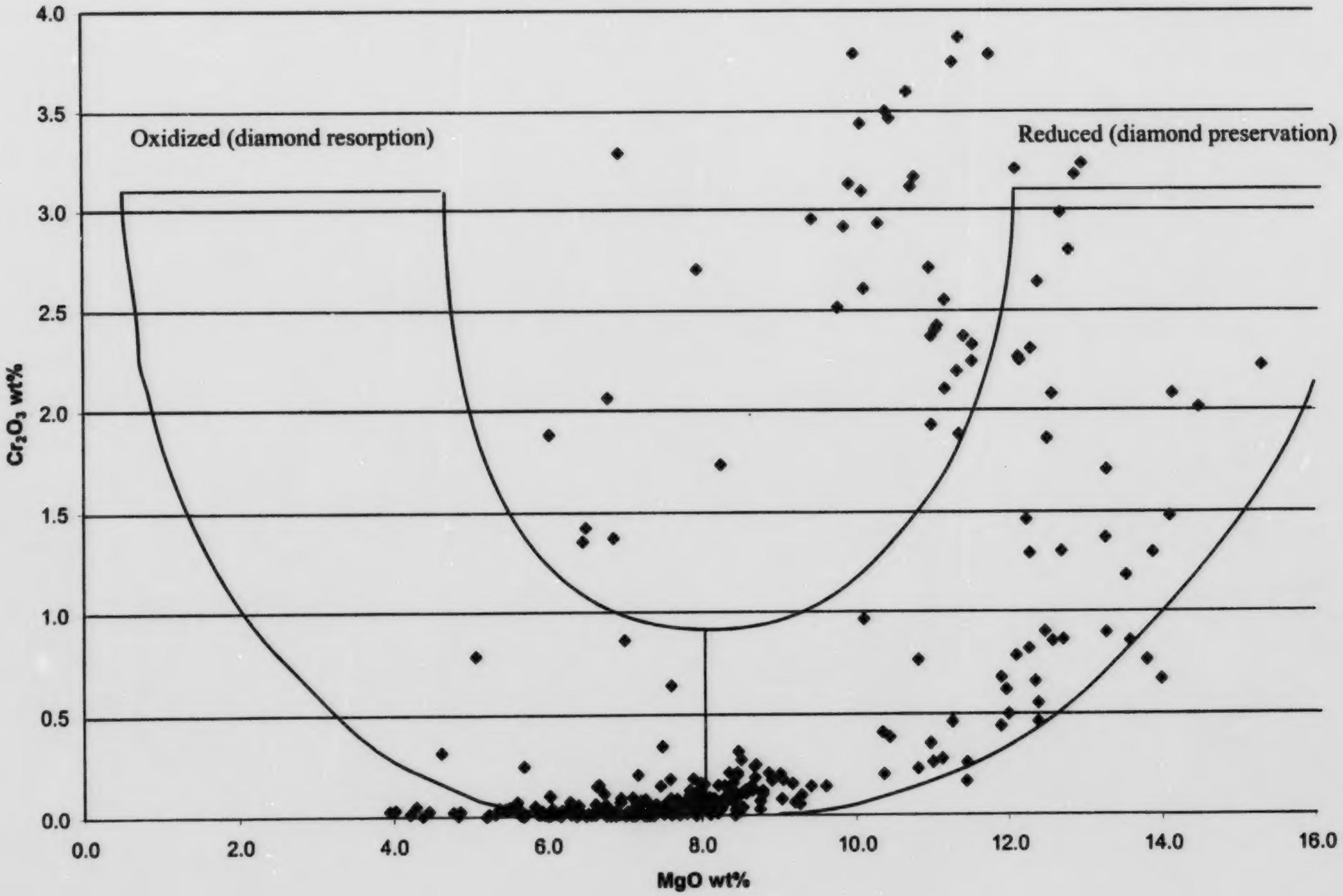

Figure 11: Mg-ilmenite Cr_2O_3-MgO plot (after Gurney and Moore 1991)

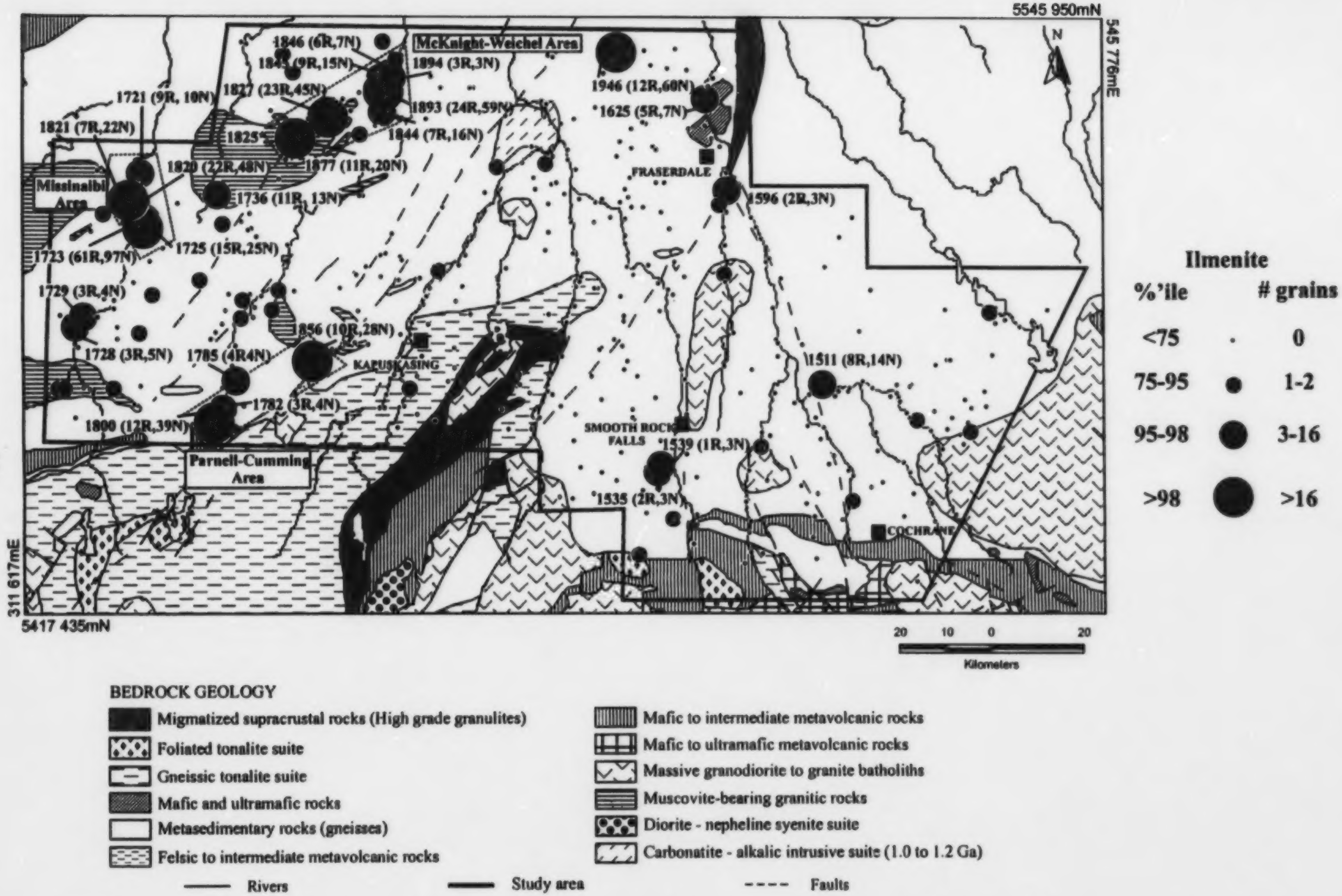
5545 950mN
545 776mE
5417 435mN
311 617mE
N
McKnight-Weichel Area
Missinaibi Area
Parnell-Cumming Area
KAPUSKASING
FRASERDALE
SMOOTH ROCK FALLS
COCHRANE
1846 (6R,7N)
1845 (9R,15N)
1894 (3R,3N)
1827 (23R,45N)
1893 (24R,59N)
1721 (9R, 10N)
1825
1844 (7R,16N)
1821 (7R,22N)
1820 (22R,48N)
1877 (11R,20N)
1736 (11R, 13N)
1723 (61R,97N)
1725 (15R,25N)
1729 (3R,4N)
1728 (3R,5N)
1785 (4R4N)
1856 (10R,28N)
1782 (3R,4N)
1800 (12R,39N)
1946 (12R,60N)
1625 (5R,7N)
1596 (2R,3N)
1511 (8R,14N)
1539 (1R,3N)
1535 (2R,3N)
20
10
0
20
Kilometers
Ilmenite
%'ile
# grains
<75
0
75-95
1-2
95-98
3-16
>98
>16
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 12 : Regional distribution of Mg-ilmenite grains based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of ilmenite grains recovered from that site (number of grains actually picked (R), normalized number of grains (N)).

A total of 1133 Cr-diopside grains were submitted for microprobe analysis. Two distinct groups of Cr-diopside grains were identified (Figure 13A). Group 1 consists of 472 Cr-diopside grains most likely derived from a crustal source. Group II consists of 661 Cr-diopsides that are probably mantle derived. Within the mantle derived pyroxene group, 195 Cr-diopside grains plot within the kimberlite field of Morris et al.'s (2000) Al_2O_3, Na_2O and Cr_2O_3 ternary diagram (Figure 13A). These grains have been added to the KIM dataset.

The proportional dot diagram (Figure 14) shows several individual sites and 3 areas where clusters of anomalous values of Cr-diopside exist: 1) Area 1: located within the Hilmer area (samples 00KAP-1835, 00KAP-1884, 00KAP-1885 and 00KAP-1886); 2) Area 2: located south east of the Parnell-Cumming area (samples 00KAP-1599 and 00KAP-1652); and 3) Area 3: located south-west of Fraserdale (samples 00KAP-1569, 00KAP-2001, 00KAP-2016 and 00KAP-2030).

OLIVINE

Olivine grains recovered from kimberlite pipes in other parts of Ontario such as; James Bay lowland and Kirkland Lake, have forsterite values (Fo=Mg/MgFe) greater than 80 (Sage 1996, Fipke et al. 1995) and contain significant amounts of nickel (0.2-0.49 wt % NiO) (Fipke et al. 1995). These values have been used as cut offs for possible kimberlitic olivines. A total of 23 olivine grains plotted in the >80 Fo mafic and kimberlitic overlap field in the SiO_2 vs. Fo (Mg/FeMg) diagram (Morris et al. 2000) (Figure 13B). These grains have been included in the KIM data set (Appendix C).

One area and 4 individual sites where anomalous concentrations of olivine occur have been identified (Figure 15). The McRea area is located immediately north of Parnell Township (samples 00KAP-1790, 00KAP-1799 and 00KAP-1789). Other individual sites include samples 00KAP-1844, 00KAP-1763, 00KAP-1599 and 00KAP-1776.

RECOMMENDATIONS FOR KIMBERLITE EXPLORATION

Examination of the composition and distribution of kimberlite indicator minerals in the Kapuskasing-Fraserdale area has identified several areas containing anomalous values of KIMs (Table 1). The exploration targets within the study area (Figure 16) are based on sample sites containing a combination of significant KIMs such as "G10" garnets, "G9" garnets, Mg-ilmenites, Cr-diopsides, chromites unique to lamproites and kimberlites, chromite grains that display diamond inclusion field compositions along with chromite grains containing inclusions of other KIMs, and forsteritic olivines (Table 1). All data has been normalized to table weight feed against 15 kg. Sample sites within the study area containing a low number of total KIMs may be an indication of: 1) successive stages of kimberlite indicator mineral reworking caused by glacial, glaciofluvial and alluvial transport; or 2) derivation of KIMs from a source existing outside of the study area.

Only one "G10" and 1 diamond inclusion chromite were recovered within the Kapuskasing-Fraserdale study area. These grains were both found within the McKnight-Weichel area along with other significant KIMs such as diamond preservation field ilmenites, possible KIM ilmenites, "G9" garnets, overlap field chromites, kimberlite indicator Cr-diopsides and kimberlitic/lamproitic chromites (Table 1). Although caution is warranted, this site may be the most favourable for kimberlite exploration.

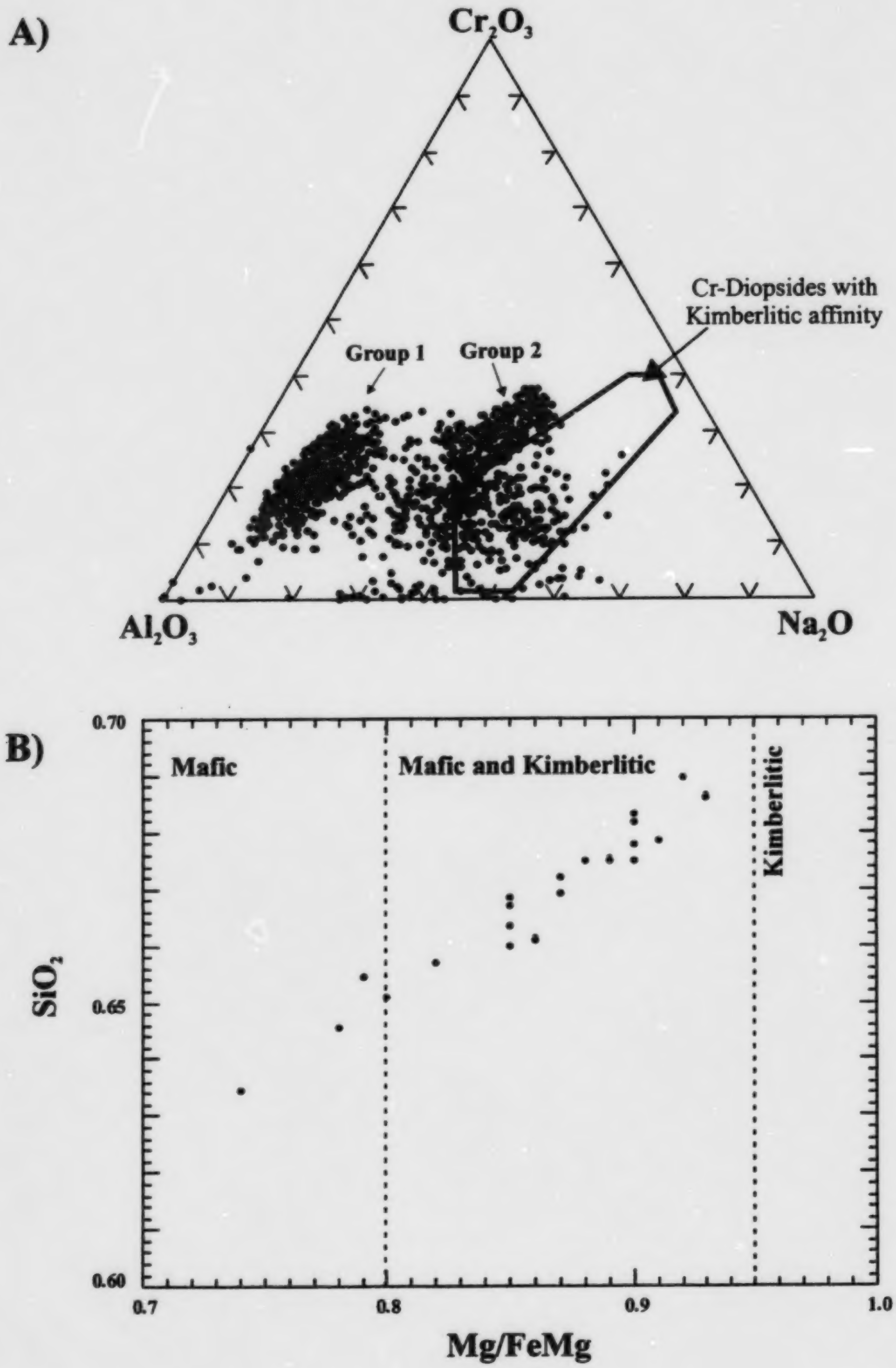

Figure 13 : Cr-diopside ternary plot and olivine plot. **A)** Cr_2O_3, Al_2O_3 and Na_2O wt% ternary plot for pyroxenes. **B)** SiO_2 vs. Mg/FeMg (Forsterite) wt% plot for olivines. (After Morris et al. 2000)

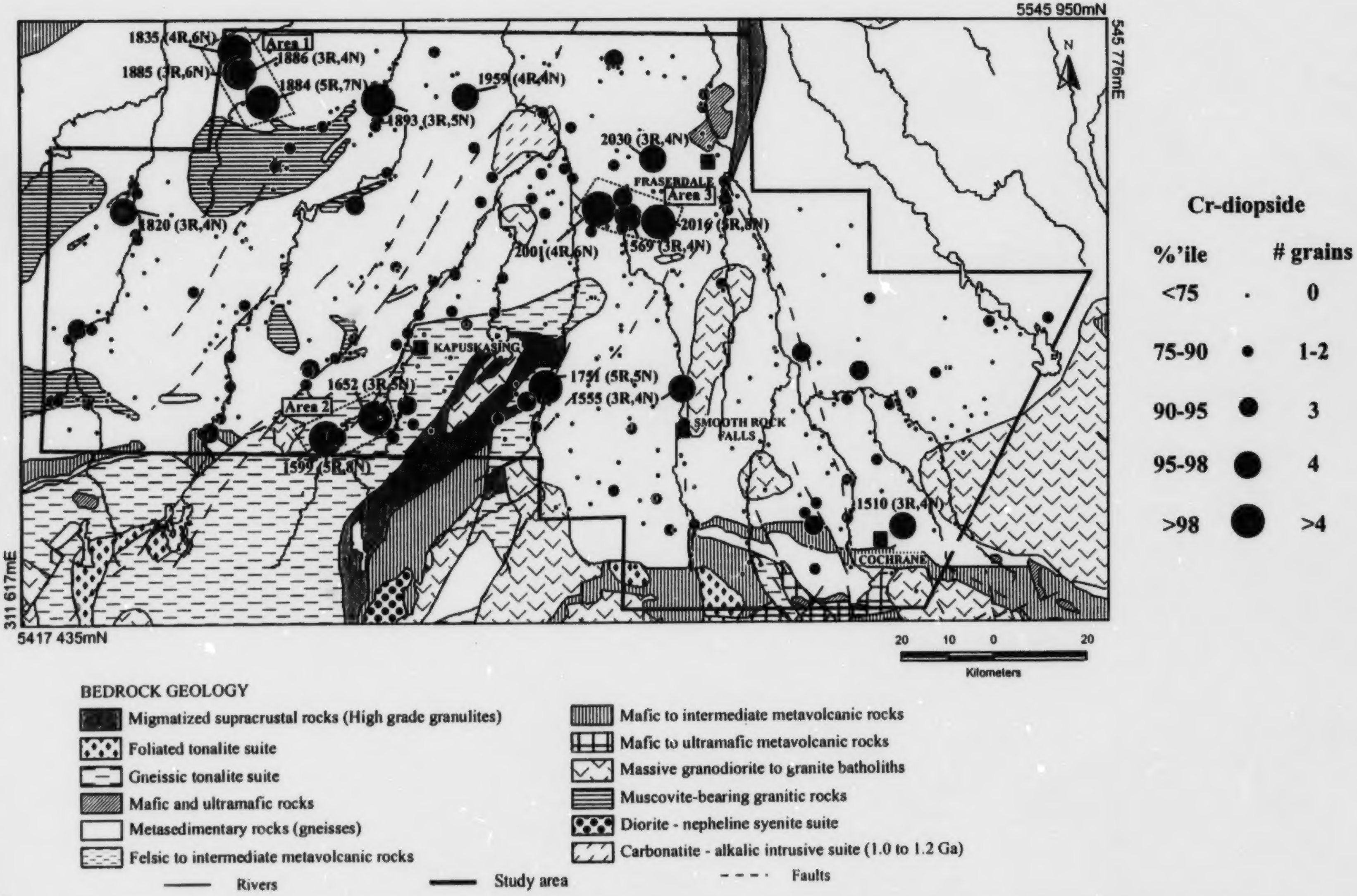
5545 950mN
545 776mE
5417 435mN
311 617mE
N
1835 (4R,6N)
Area 1
1886 (3R,4N)
1885 (3R,6N)
1884 (5R,7N)
1959 (4R,4N)
1893 (3R,5N)
2030 (3R,4N)
FRASERDALE
Area 3
2016 (5R,8N)
1820 (3R,4N)
2001 (4R,6N)
1569 (3R,4N)
KAPUSKASING
1652 (3R,5N)
Area 2
1751 (5R,5N)
1555 (3R,4N)
SMOOTH ROCK FALLS
1599 (5R,8N)
1510 (3R,4N)
COCHRANE
20
10
0
20
Kilometers
Cr-diopside
%'ile
# grains
<75
0
75-90
1-2
90-95
3
95-98
4
>98
>4
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 14: Regional distribution of Cr-diopside (pyroxene) grains based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of Cr-diopside grains recovered from that site (number of grains actually picked (R), normalized number of grains (N)).

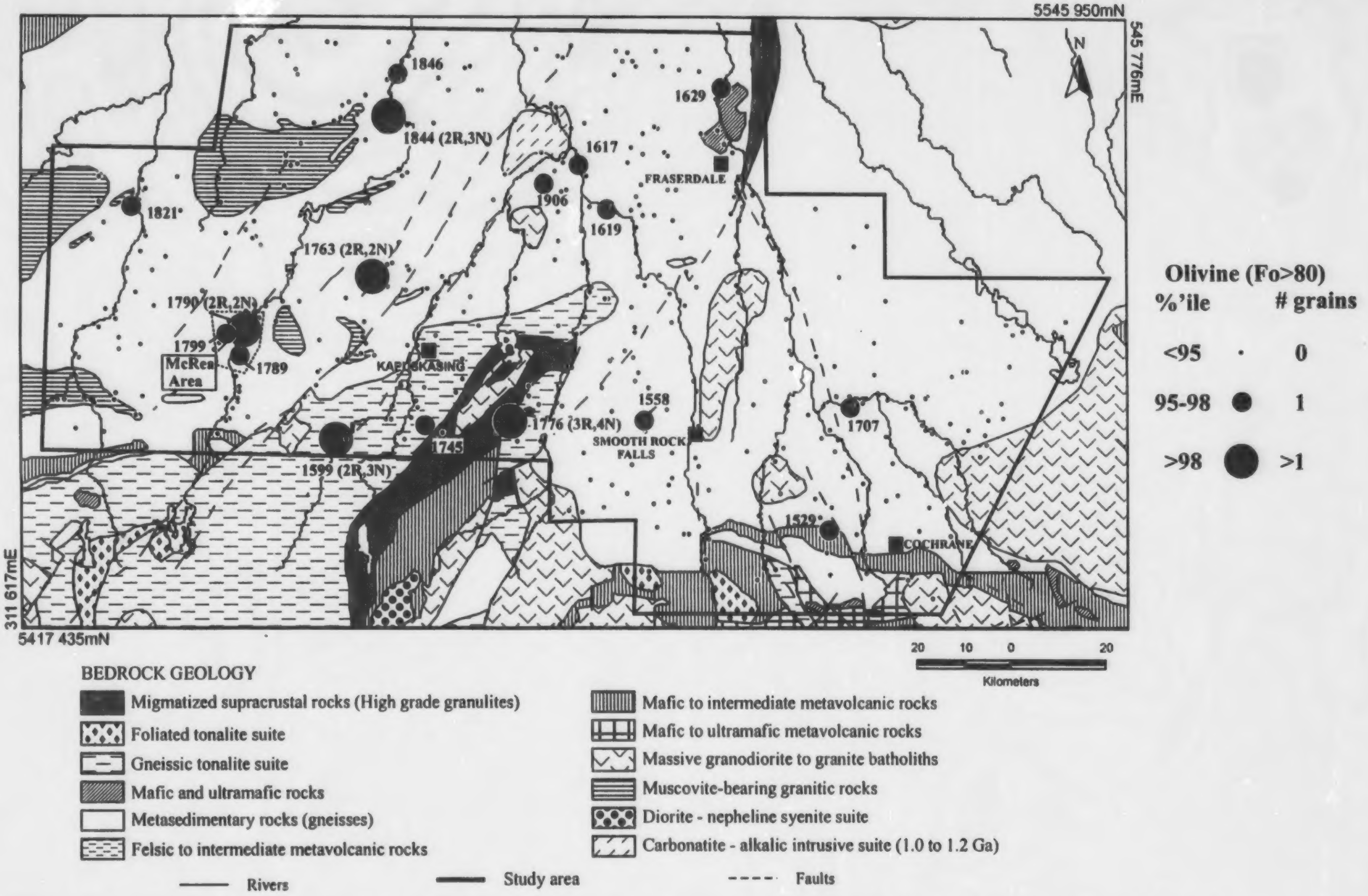
5545 950mN
545 776mE
311 617mE
5417 435mN
N
1846
1844 (2R,3N)
1821
1763 (2R,2N)
1790 (2R,2N)
1799
1789
McRea Area
1629
1617
1906
1619
FRASERDALE
KAPUSKASING
1745
1776 (3R,4N)
1599 (2R,3N)
1558
SMOOTH ROCK FALLS
1707
1529
COCHRANE
20 10 0 20
Kilometers
Olivine (Fo>80)
%'ile
# grains
<95
0
95-98
1
>98
>1
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 15: Regional distribution of forsteritic (Fo>80) olivine grains based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of forsteritic olivines recovered from that site (number of grains actually picked (R), normalized number of grains (N).

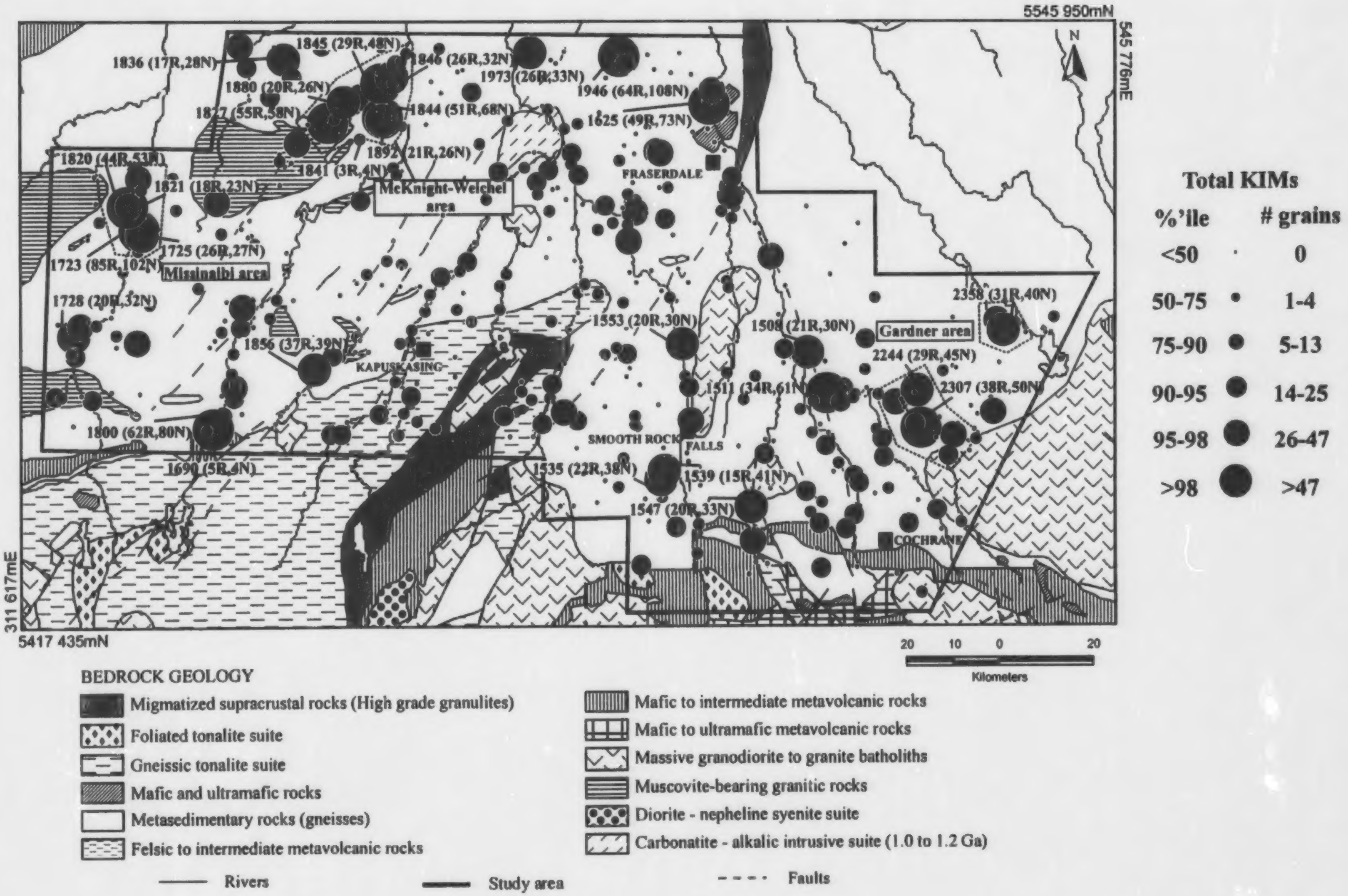
5545 950mN
545 776mE
311 617mE
5417 435mN
N
1836 (17R,28N)
1845 (29R,48N)
1846 (26R,32N)
1880 (20R,26N)
1973 (26R,33N)
1946 (64R,108N)
1877 (55R,58N)
1844 (51R,68N)
1625 (49R,73N)
1892 (21R,26N)
1820 (44R,53N)
1841 (3R,4N)
McKnight-Weichel area
FRASERDALE
1821 (18R,23N)
1725 (26R,27N)
1723 (85R,102N)
Missinaibi area
1728 (20R,32N)
1553 (20R,30N)
1508 (21R,30N)
Gardner area
2358 (31R,40N)
1856 (37R,39N)
KAPUSKASING
2244 (29R,45N)
1511 (34R,61N)
2307 (38R,50N)
1800 (62R,80N)
SMOOTH ROCK FALLS
1690 (5R,4N)
1535 (22R,38N)
1539 (15R,41N)
1547 (20R,33N)
COCHRANE
20
10
0
20
Kilometers
Total KIMs
%'ile
# grains
<50
0
50-75
1-4
75-90
5-13
90-95
14-25
95-98
26-47
>98
>47
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 16: Regional distribution of total KIMs based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of total KIM grains recovered from that site (number of grains actually picked (R), normalized number of grains (N)). Numbered sites are summarized in Table 1.

Table 1: Summary table of samples containing the most significant numbers of KIMs within the Kapuskasing-Fraserdale study area. Results can be used to target exploration in the study area.

Sample	KIM grains recovered (raw data)	Total KIM grains (raw data)	Total KIM grains (normalized data)
1) The Hilmer-Weichel area			
00KAP-1827	1 G9, 29 OFCr, 23 Im, 2 DC	55	58
00KAP-1841	1 G10, 1 OFCr, 1 Im	3	4
00KAP-1844	2 KimCr, 39 OFCr, 7 Im, 1DC, 2 Ol	51	68
00KAP-1845	1 G9, 18 OFCr, 9 Im, 1DC	29	48
00KAP-1846	19 OfCr, 6 Im, 1 Ol	26	32
00KAP-1880	1 KimCr, 19 OFCr	20	26
00KAP-1892	1 IfCr, 18 OfCr, 1Im, 1 DC	21	26
2) The Gardner area			
00KAP-2244	1 G9, 1 Ec2, 26 OFCr, 1 DC	29	45
00KAP-2307	1 MEG, 36 OFCr, 1 Im	38	50
00KAP-2358	31 OFCr	31	40
3) The Missinaibi area			
00KAP-1723	4 G9, 18 OFCr, 61 Im, 2 DC	85	102
00KAP-1725	10 OFCr, 15 Im, 1DC	26	27
00KAP-1820	19 OFCr, 22 Im, 3 DC	44	53
00KAP-1821	1 G9, 9 OFCr, 7 Im, 1 Ol	18	23
Individual sites			
00KAP-1508	19 OFCr, 2 DC	21	30
00KAP-1511	26 OFCr, 8 Im	34	61
00KAP-1535	18 OFCr, 2 Im, 2 DC	22	38
00KAP-1539	14 OFCr, 1Im	15	41
00KAP-1547	20 OFCr	20	33
00KAP-1553	1 G9, 19 OFCr	20	30
00KAP-1625	1 Ec2, 4 KimCr, 38 OFCr, 5 Im, 1 DC	49	73
00KAP-1690	5 G9	5	4
00KAP-1728	16 OFCr, 3 Im, 1DC	20	32
00KAP-1800	1 G9, 47 OFCr, 12 Im, 2 DC	62	80
00KAP-1836	1 G9, 1 KimCr, 14 OFCr, 1Im	17	28
00KAP-1856	4 G9, 2 KimCr, 19 OFCr,10 Im, 2 DC	37	39
00KAP-1946	2 KimCr, 48 OFCr, 12 Im, 2 DC	64	108
00KAP-1973	1 G9, 25 OFCr	26	33

G9/G10 = Cr-pyrope garnet
Ec2 = Eclogitic garnet
MEG = Megacrystic garnet
Cr = Chromite
IfCr = Inclusion field Chromite
KimCr = Kimberlitic Chromite
DC = Cr-diopside
Im = Mg-ilmenite
Ol = olivine (Fo > 80)

A better knowledge of the bedrock geology surrounding the anomalous sites is needed to assess any structural or petrological relationships. There seems to be a correlation between the presence of significant numbers of KIMs and regional faults associated with the Kapuskasing Structural Zone.

Several regional magnetic anomalies exist within the Kapuskasing–Fraserdale study area. Aeromagnetic maps have been published by the Geological Survey of Canada (1963) at a scale of 1:63 360 and an average flight spacing of 805 m. However, surveys of this quality are generally not adequate for the detection of kimberlite pipes because flight lines are too widely spaced. Wolfe et al. (1975) illustrates a high sensitivity aeromagnetic survey performed by the Aquitaine Company of Canada Limited in 1972. The average flight spacing of this survey was 400 m. This survey may be more useful in finding magnetic anomalies related to kimberlite pipes.

KIM grains have also been detected within modern alluvium during previous OGS surveys to the south of the Kapuskasing–Fraserdale study area (Morris, Crabtree and Averill 1998; Stephenson et al. 1999). Results from these surveys are comparable to results obtained from this study.

Metamorphic or Magmatic Massive Sulphide Indicator Minerals (MMSIMs®)

Metamorphic massive sulphide indicator minerals are stable heavy minerals that occur in alteration zones associated with volcanogenic massive sulphide (VMS) deposits in high grade terrains, skarn and greisen deposits and magmatic Ni–Cu sulphide deposits (Averill 1999). Heavy mineral assemblages for each deposit type are described in Averill (1999). Like KIMs, MMSIMs®* are used to trace bedrock sources up stream and/or up ice from where they were recovered. Within the Kapuskasing–Fraserdale study area, MMSIM® grains have been subjected to many types of transport including, glacial, glaciofluvial and alluvial. This must be taken into consideration during exploration for indicator mineral bedrock sources. The best MMSIM® anomalies include 2 or more indicator mineral species. Common mineral associations are gahnite–barite, chalcopyrite–spessartine (or Mn epidote), gahnite–chalcopyrite–staurolite (or anthophyllite) and red rutile–spinel–kyanite (or sillimanite). Other minerals enriched in ore metals instead of (or in addition to) alteration zone elements, such as gahnite (+Zn), can also be found within metamorphic massive sulphide alteration zones and are very significant indicator minerals. Other MMSIMs® such as kyanite, sillimanite, staurolite and orthopyroxene are less useful than others, especially within the Kapuskasing–Fraserdale study area, because they are common throughout some high grade regional metamorphic terrains as well as in hydrothermal alteration zones.

Cr–DIOPSIDE

Cr–diopside pyroxene is a good indicator for Ni–Cu massive sulphide deposits due to its extreme abundance in Ni-bearing pyroxenites and peridotites (Averill 1999). Cr–diopside grains that did not plot in the KIM field of Morris et al.'s (2000) Cr_2O_3, Al_2O_3 and Na_2O ternary diagram (Figure 13A) and that contained Cr_2O_3 values less than 1.3 wt% were included in the MMSIM® data set (Appendix D of MRD 68 (Ontario Geological Survey 2001)). A total of 842 Cr–diopside grains were identified as MMSIMs® in this study (Table 2) (Appendix E).

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*MMSIM is a registered trademark of Overburden Drilling Management Limited, Nepean, Ontario

Table 2: Summary table of samples containing the most significant numbers of volcanogenic massive sulphide (VMS) deposit indicator minerals within the Kapuskasing–Fraserdale study area.

Sample	MMSIM grains recovered: VMS deposit indicators (sillimanite, kyanite, staurolite, corundum, orthopyroxene, sapphirine/sapphire, Mn–epidote, spessartine, gahnite, Cr–rutile, chalcopyrite, loellingite, gold, Cr–aegirine)	Total MMSIMs (raw data)
00KAP-1508	2 gahnite, 1 sapph, 1 red rutile, 1 Mn–epidote, 1% Ky, Tr Sil, Tr St, Tr Opx	5
00KAP-1539	3 cpy, 1 gahnite, 2 red rutile, Tr Ky, Tr sil, Tr St, 2% Opx	6
00KAP-1553	8 cpy, 3 gahnite, 2 Au, Tr Ky, Tr St, 1% Opx	13
00KAP-1566	2 cpy, 4 gahnite, Tr St, 0.5% Opx	6
00KAP-1570	4 gahnite, 2 corundum, 1 sapph, Tr Ky, Tr St, Tr Sps, 5% Opx	7
00KAP-1575	12 cpy, 8 gahnite, 1 corundum, Tr Ky, Tr St	21
00KAP-1577	9 cpy, 10 gahnite, Tr St, 5% Opx	19
00KAP-1578	1 Mn–epidote, 1 Au, Tr Ky, Tr Sps, 10% Opx	2
00KAP-1579	4 cpy, 2 gahnite, 3 Au, Tr Ky, Tr Sil, 0.5% St, Tr Sps, 5% Opx	9
00KAP-1596	150 est. cpy, 1 Au, Tr Ky, Tr St, 8% Opx	151
00KAP-1613	14 red rutile, Tr Ky, Tr Sil, Tr St, 3% Opx	14
00KAP-1616	7 red rutile, Tr Ky, Tr Sil, Tr St, 5% Opx	7
00KAP-1617	2 gahnite, 2 corundum, 1 sapph, 0.5% Ky, Tr St, Tr Sps, 15% Opx	5
00KAP-1621	1 cpy, 18 red rutile, Tr Ky, 1% St, Tr Sps, 2% Opx	19
00KAP-1625	15 cpy, 16 red rutile, 1 Au, Tr Ky, Tr St, 1% Opx	32
00KAP-1629	1 corundum, 13 red rutile, 1 Au, Tr Ky, Tr Sil, Tr St, 1% Opx	15
00KAP-1656	6 cpy, Tr Ky, Tr St, Tr Sps, 2% Opx	6
00KAP-1658	1 cpy, 1 red rutile, 8 Au, Tr Ky, Tr St, 35% Opx	10
00KAP-1676	1 gahnite, 13 red rutile, 1 Mn–epidote, Tr Ky, Tr Sps, 2% Opx	15
00KAP-1906	8 red rutile	8
00KAP-1946	1 cpy, 1 gahnite, 2 red rutile, 1 Au, Tr Ky, Tr St, Tr Opx	5
00KAP-2329	7 cpy, 3 gahnite, Tr Ky, 1% St, 2% Opx	10
00KAP-2362	5 gahnite, Tr Sps, Tr St, 5% Opx	5

cpy = chalcopyrite
est. cpy = estimated chalcopyrite
Au = gold
Ky = kyanite
Sil = sillimanite
St = staurolite
sapph = sapphirine/sapphire
Opx = orthopyroxene
Tr = trace

CHROMITE

Most chromite grains recovered from the Kapuskasing-Fraserdale study area are well-rounded and often associated with abundant rounded almandine grains, carbonate pebbles and lignite associated marcasite grains. This is a strong indication that many chromite grains likely originated from the tuffaceous and siliceous sands of the Moose River Basin.

Chromites that do not plot in the kimberlitic field of Fipke et al.'s (1995) Cr_2O_3-TiO_2 wt% diagram (Figure 9B) have been included in the MMSIM® data set. Chromite can be an indicator for alteration zones in metamorphosed VMS deposits and in Ni-Cu massive sulphide deposits (Averill 1999). In this study, a total of 98 MMSIM® chromite grains were picked from samples recovered from the study area (Appendix E).

GAHNITE

Gahnite is a potential indicator for metamorphosed volcanogenic massive sulphide deposits because of its hardness (8 on Mohs scale), stability in high grade metamorphic rocks and chemical stability in oxidizing surficial environments (Dunlop 2000, Sheridan and Raymond 1984, Spry and Scott 1986, Parr 1992, Chew 1977, Spry 1982, Zaleski 1989, Morris, Breaks et al. 1997). The MMSIM indicator elements in gahnite are Mg, Zn and Al.

Gahnite can also be an indicator of pegmatite and granite. However, there appears to be a clear distinction in mineral chemistry in bedrock gahnite derived from metamorphosed massive sulphides and that from rare-element pegmatite and peraluminous granite (Dunlop 2000). Gahnites derived from metamorphosed massive sulphides generally contain MgO values greater than 2 wt% and ZnO values ranging between 26 to 33 wt%. Caution must be exercised when using gahnite geochemistry from overburden samples because they show more variability and overlap in mineral chemistry than gahnite taken from bedrock samples (Dunlop 2000). In this study, the MgO content of gahnite grains has been used to distinguish gahnite recovered from polymetallic deposits (MgO greater than 2 wt%) and, rare-element pegmatites and peraluminous granites (MgO less than 2 wt%). Summary statistics for gahnite grains is listed in Appendix E. Gahnite geochemistry is listed in Appendix F of Miscellaneous Release Data (MRD) 68 (Ontario Geological Survey 2001), available separately from this report.

A total of 100 gahnite grains were recovered from the Kapuskasing-Fraserdale study area. Seventy of these grains contained MgO content greater than 2 wt%. Almost all of these 70 indicator grains contained ZnO values between 26 and 33 wt %, with the exception of 14 grains having a ZnO content greater than 33 wt % (Appendix F of MRD 68 (Ontario Geological Survey 2001)). The proportional dot diagram shows anomalous gahnite levels in the central part of the study area (Figure 17). It is worth noting that most anomalous samples occur above or near the Kineras Fault (KF). Elevated gahnite concentrations within this part of the study area seem to be coincident with the area of elevated gahnite concentrations found within Morris, Crabtree and Averill's (1998) report area, located south of the Kapuskasing-Fraserdale study area.

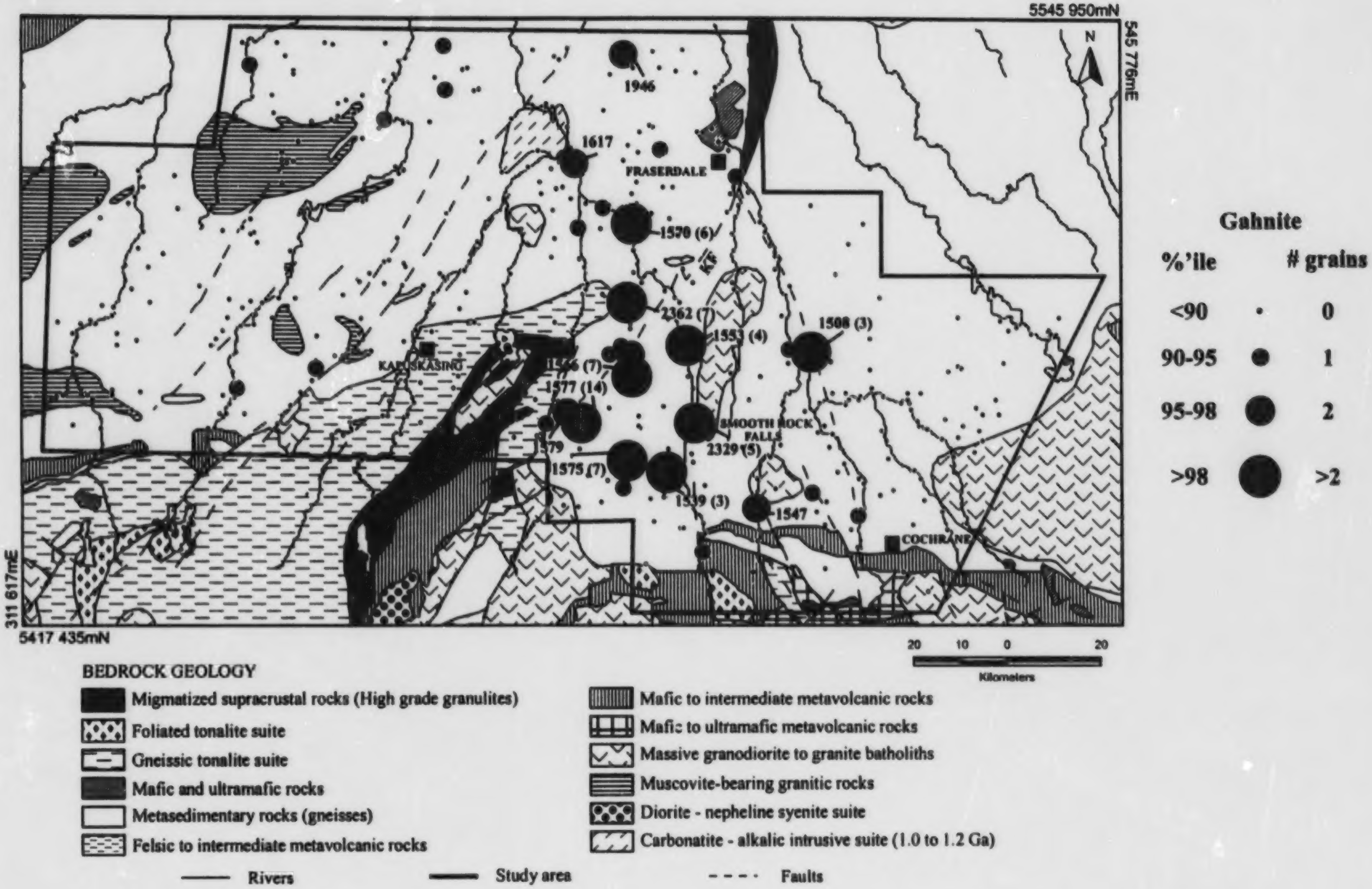
5545 950mN
545 776mE
N
5417 435mN
311 617mE
1946
1617
FRASERDALE
1570 (6)
2362 (7)
1553 (4)
1508 (3)
KAPUSKASING
1566 (7)
1577 (14)
1579
1575 (7)
SMOOTH ROCK FALLS
2329 (5)
1539 (3)
1547
COCHRANE
20 10 0 20
Kilometers
Gahnite
%'ile
# grains
<90
0
90-95
1
95-98
2
>98
>2
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 17: Regional distribution of gahnite grains based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of gahnite grains recovered from that site (normalized). KF = Kineras fault.

CARBONATITE INDICATORS

Heavy minerals associated with carbonatite were recovered from several samples (Appendix E). Samples 00KAP-1596, 00KAP-1597 and 00KAP-1598 all contain anomalous carbonatite indicator minerals. Apatite is a major assemblage mineral in each of these samples. Also present, to varying degrees, are the rare earth minerals pyrochlore, bastnaesite, synchysite and parisite. The rare earth anomalies are weak, however, sample 00KAP-1596 yielded approximately 150 chalcopyrite grains. Pyrite, however, is not abundant in the sample containing anomalous values of chalcopyrite, suggesting that chalcopyrite grains are hardy survivors of a once-larger population and the anomaly is stronger than it seems (S. Averill, Overburden Drilling Management Limited, personal communications, 2001). As mentioned previously in the report, some carbonatites like the one in Palabora, South Africa are mined for copper. There are several other samples collected from this study area containing carbonatite indicator grains (Appendix E).

RECOMMENDATIONS FOR METAMORPHIC/MAGMATIC MASSIVE SULPHIDE EXPLORATION

Within this study, the results of indicator minerals for each of the deposit types; volcanogenic massvie sulphide (VMS) deposits, skarn deposits and Ni-Cu massive sulphide deposits are discussed. Common indicator minerals for VMS deposits in this study include; sillimanite, kyanite, staurolite, corundum, orthopyroxene, sapphirine/sapphire, Mn-epidote, spessartine, gahnite, Cr-rutile, chalcopyrite, loellingite, gold and Cr-aegirine. Common indicator minerals for Ni-Cu massive sulphide deposits include; olivine, orthopyroxene, low Cr-diopside, chromite, Cr-rutile and chalcopyrite. Finally, common indicator minerals for skarn deposits include; forsteritic olivine, chalcopyrite, gold and grossular garnet.

MMSIMs® associated with metamorphosed volcanogenic massive sulphide mineralization, Ni-Cu massive sulphide mineralization and skarn mineralization that were found in samples collected within this study are listed in Appendix E. Recommended exploration areas are based on sample sites containing significant numbers of MMSIM® grains. Samples containing the most significant MMSIMs® for each deposit type are listed in Tables 2, 3 and 4. A summary MMSIM® proportional dot diagram is presented for each deposit type (Figures 18, 19 and 20). All data within the MMSIM® proportional dot diagrams is normalized to table weight feed. Chromite is normalized to table weight feed and to estimated grains.

The proportional dot diagram for VMS deposit indicator minerals shows several sites containing anomalous values that are located in the central part of the study area (Figure 18, Table 2). Elevated values of red rutile are concentrated within the northern section of this large group of anomalies, along a similar north-south trend as the anomalous gahnite grains (Figure 17).

The proportional dot diagram for Ni-Cu massive sulphide indicator minerals, shows several sites containing anomalous values of MMSIMs® in the south-central part of the study area (Figure 19, Table 3).

The proportional dot diagram for skarn indicator minerals shows several areas containing anomalous values (Figure 20, Table 4). However, by considering the total number of MMSIMs® for each site, fewer exploration targets of higher quality may be recommended.

Table 3: Summary table of samples containing the most significant numbers of Ni-Cu massive sulphide deposit indicator minerals within the Kapuskasing-Fraserdale study area.

Sample	MMSIM grains recovered: Ni-Cu Massive Sulphide indicators (olivine, orthopyroxene, low Cr-diopside, chromite, Cr-rutile, chalcopyrite)	Total MMSIMs (raw data)
00KAP-1535	4 cpy, 18 DC, Tr Opx, 1 Cr	23
00KAP-1539	3 cpy, 5 DC, 2% Opx, 1 Cr, 2 red rutile	11
00KAP-1553	8 cpy, 5 DC, 1% Opx, 3 Cr	16
00KAP-1561	15 DC, Tr Opx, 1 Cr, 4 red rutile	20
00KAP-1566	2 cpy, 9 DC, 0.5% Opx	11
00KAP-1579	4 cpy, 14 DC, 4 Cr, 5% Opx	22
00KAP-1596	150 est. cpy, 7 DC, 8% Opx	157
00KAP-1599	4 cpy, 12 DC, 2 Fo olivine, Tr Opx	18
00KAP-1625	15 cpy, 11 DC, 7 Cr, 16 red rutile, 1% Opx	49
00KAP-1659	9 cpy, 15 DC,. 20% Opx	24
00KAP-1715	32 DC, Tr Opx	32
00KAP-1751	26 DC, 15% Opx	26
00KAP-1855	40 DC, Tr Opx	40
00KAP-1856	1cpy, 4 DC, 1 Cr-grossular garnet, Tr Opx	5 + 1 gross gnt
00KAP-2244	2 DC, 29 Cr, 3 red rutile	34
00KAP-2312	2 cpy, 2 DC, Tr Opx, 135 Cr	139
00KAP-2329	7 cpy, 4 DC, 2% Opx	11

Table 4: Summary table of samples containing the most significant numbers of Skarn deposit indicator minerals within the Kapuskasing-Fraserdale study area.

Sample	MMSIM grains recovered: Skarn deposit indicators (forsteritic olivine, chalcopyrite, gold, grossular garnet)	Total MMSIMs (raw data)
00KAP-1501	9 gold	9
00KAP-1539	3 cpy	3
00KAP-1553	8 cpy, 2 gold	10
00KAP-1575	12 cpy	12
00KAP-1577	9 cpy	9
00KAP-1579	4 cpy, 3 gold	7
00KAP-1596	150 est. cpy, 1 gold	151
00KAP-1599	4 cpy, 2 forsteritic olivine	6
00KAP-1625	15 cpy, 1 gold	16
00KAP-1652	1cpy, 4 gold	5
00KAP-1656	6 cpy, 1 grossular garnet	6 + 1 gross gnt
00KAP-1658	1 cpy, 8 gold	9
00KAP-1659	9 cpy	9
00KAP-1723	9 cpy, 2 gold	11
00KAP-1793	14 gold	14
00KAP-1821	3 cpy, 1 forsteritic olivine, 6 gold	9
00KAP-1883	15 cpy	15
00KAP-2329	7 cpy	7

cpy = chalcopyrite, est. cpy = estimated chalcopyrite

DC = Cr-diopside, Opx = orthopyroxene, Cr = chromite,Fo = Forsteritic

gross gnt = grossular garnet, Tr = Trace

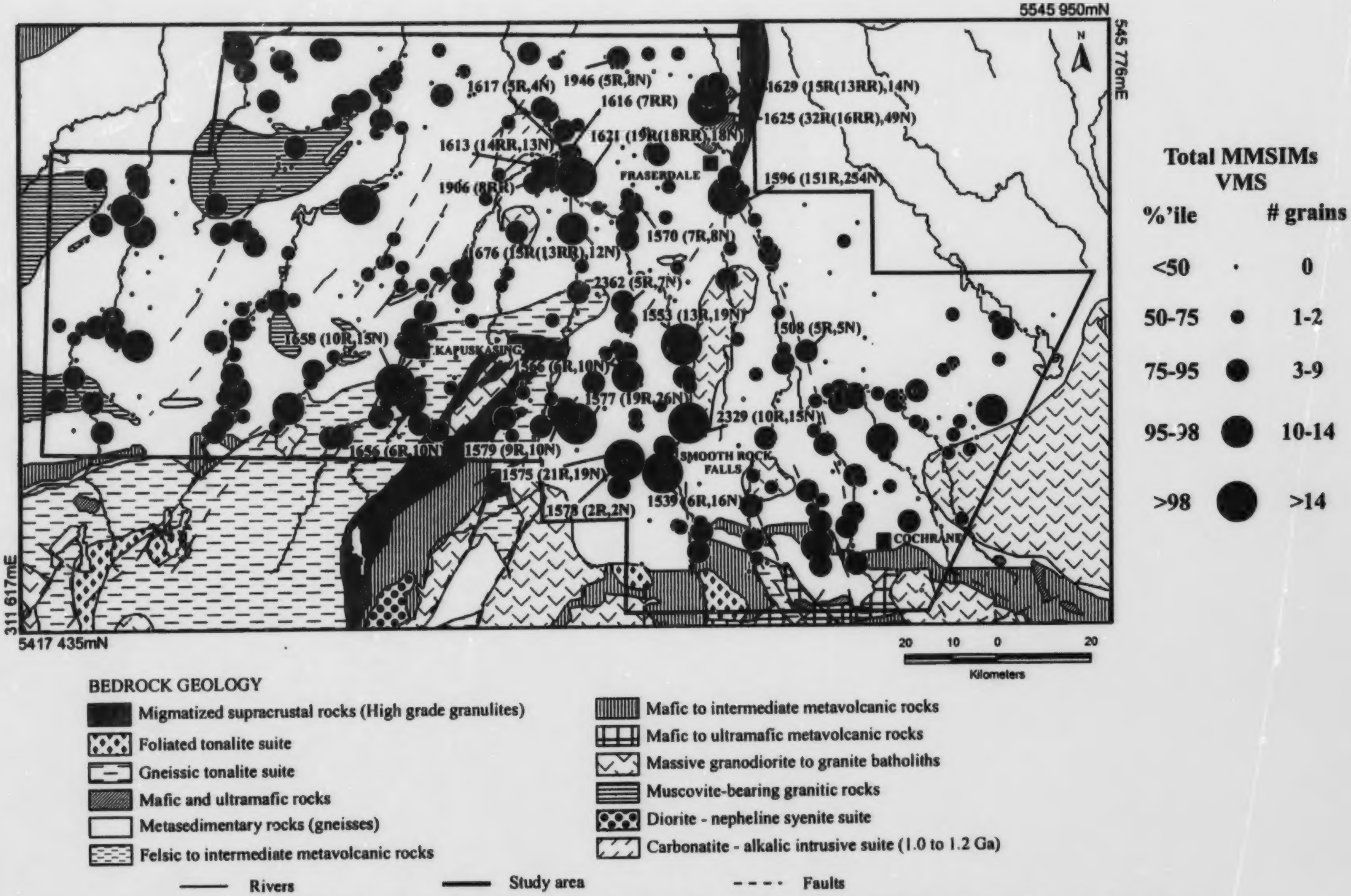
5545 950mN
545 776mE
311 617mE
5417 435mN
N
1617 (5R,4N)
1946 (5R,8N)
1616 (7RR)
1629 (15R(13RR),14N)
1625 (32R(16RR),49N)
1613 (14RR,13N)
1621 (19R(18RR),18N)
FRASERDALE
1906 (8RR)
1596 (151R,254N)
1570 (7R,8N)
1676 (15R(13RR),12N)
2362 (5R,7N)
1553 (13R,19N)
1508 (5R,5N)
1658 (10R,15N)
KAPUSKASING
1566 (6R,10N)
1577 (19R,26N)
2329 (10R,15N)
1656 (6R,10N)
1579 (9R,10N)
SMOOTH ROCK FALLS
1575 (21R,19N)
1539 (6R,16N)
1578 (2R,2N)
COCHRANE
20 10 0 20
Kilometers
Total MMSIMs VMS
%'ile
# grains
<50
0
50-75
1-2
75-95
3-9
95-98
10-14
>98
>14
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 18: Regional distribution of MMSIMs of VMS deposits (corundum, gahnite, red rutile (RR), chalcopyrite, gold, kyanite and silimanite) based on data normalized to table weight feed against 15 kg.. Numbers in brackets represent the number of grains recovered from that site (grains actually picked (R), number of red rutile grains picked (RR), normalized number of grains (N)).

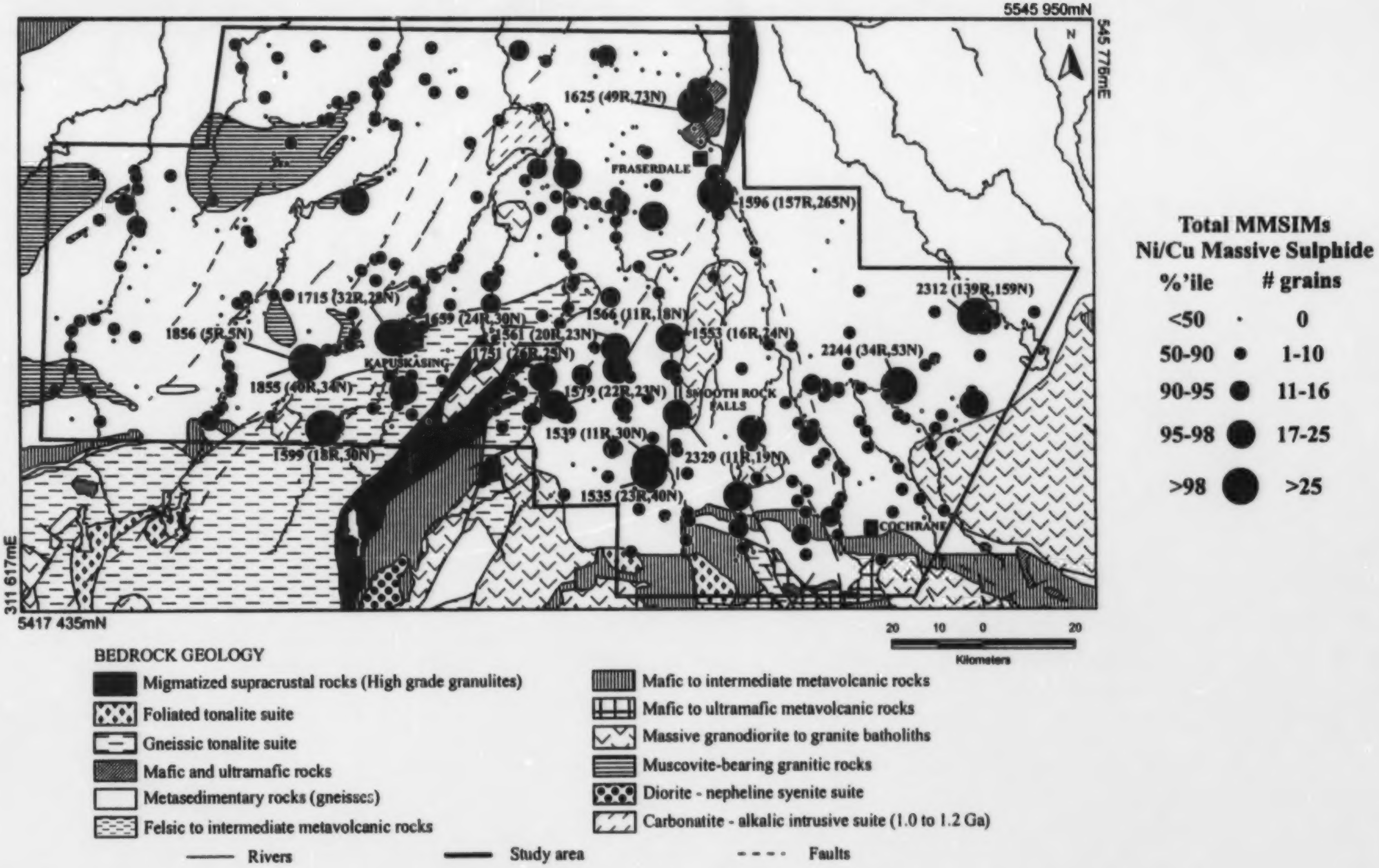
5545 950mN
545 776mE
311 617mE
5417 435mN
N
1625 (49R,73N)
FRASERDALE
1596 (157R,265N)
2312 (139R,159N)
1715 (32R,28N)
1856 (5R,5N)
1659 (24R,30N)
1561 (20R,23N)
1566 (11R,18N)
1553 (16R,24N)
2244 (34R,53N)
KAPUSKASING
1751 (26R,25N)
1855 (40R,34N)
1579 (22R,23N)
SMOOTH ROCK FALLS
1539 (11R,30N)
1599 (18R,30N)
2329 (11R,19N)
1535 (23R,40N)
COCHRANE
20 10 0 20
Kilometers
Total MMSIMs
Ni/Cu Massive Sulphide
%'ile # grains
<50 0
50-90 1-10
90-95 11-16
95-98 17-25
>98 >25
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 19: Regional distribution of MMSIMs of Ni/Cu massive sulphide deposits (chalcopyrite, orthopyroxene, low Cr-diopside) based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of grains recovered from that site (grains actually picked (R), normalized number of grains (N)).

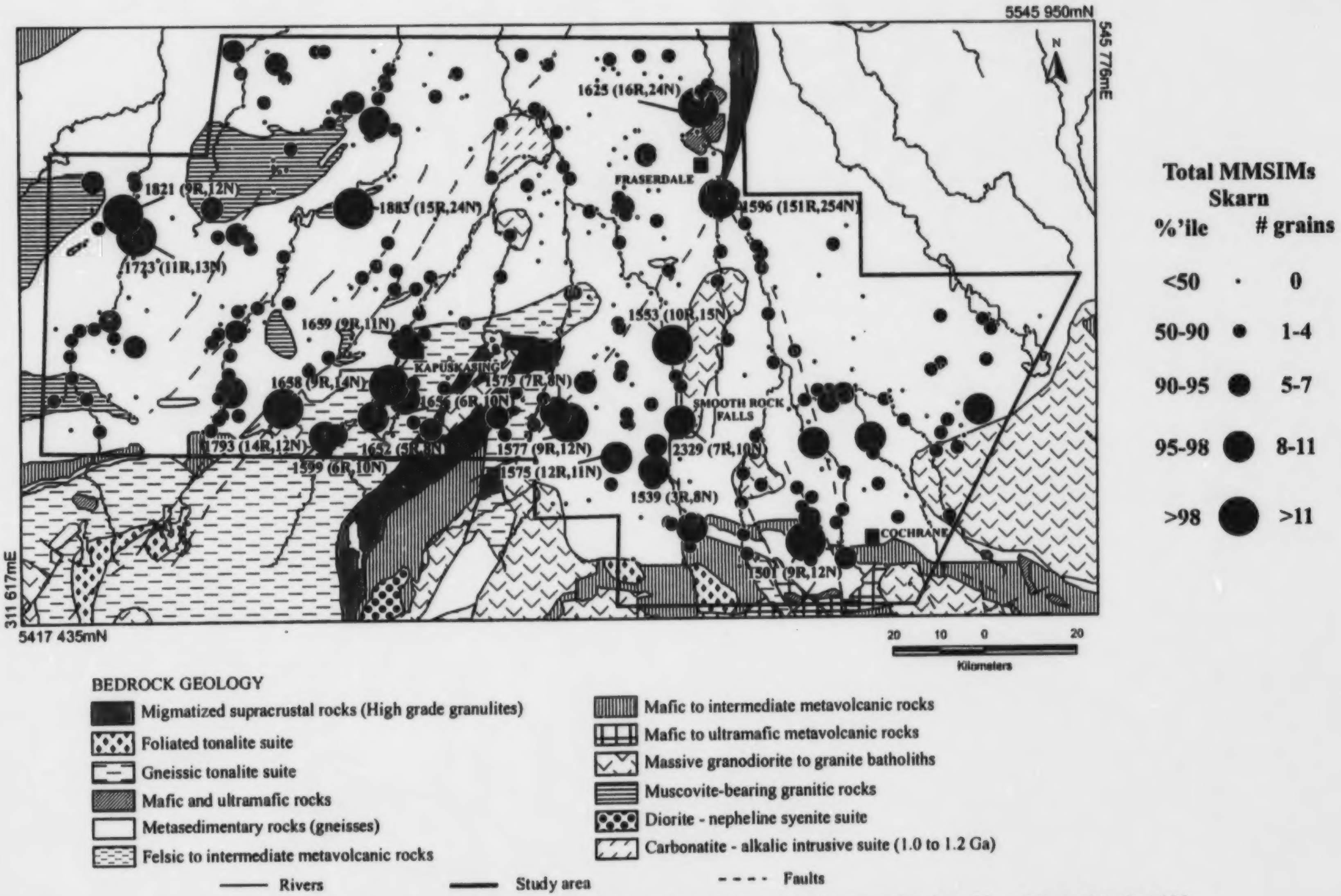
5545 950mN
545 776mE
311 617mE
5417 435mN
N
1625 (16R,24N)
FRASERDALE
1596 (151R,254N)
1821 (9R,12N)
1883 (15R,24N)
1723 (11R,13N)
1659 (9R,11N)
1553 (10R,15N)
KAPUSKASING
1658 (9R,14N)
1579 (7R,8N)
1656 (6R,10N)
SMOOTH ROCK FALLS
1793 (14R,12N)
1652 (5R,8N)
1577 (9R,12N)
2329 (7R,10N)
1599 (6R,10N)
1575 (12R,11N)
1539 (3R,8N)
COCHRANE
1501 (9R,12N)
20 10 0 20
Kilometers
Total MMSIMs
Skarn
%'ile # grains
<50 0
50-90 1-4
90-95 5-7
95-98 8-11
>98 >11
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Rivers
Study area
Faults

Figure 20: Regional distribution of MMSIMs of skarn deposits (forsterite, chalcopyrite, gold) based on data normalized to table weight feed against 15 kg. Numbers in brackets represent the number of grains recovered from that site (grains actually picked (R), nomalized number of grains (N)).

Gold

Gold grains recovered from overburden samples are commonly silt sized and vary in grain shape depending on the distance of transport from their source area. Three gold grain appearances are recognized: 1) pristine; 2) modified; and 3) reshaped. Gold grain shapes can be used to determine the transport history of the sample. In general, pristine grains indicate little distance of transport from the source area and reshaped grains indicate a longer distance of transport.

The number of gold grains recovered in this study is small relative to other studies (Bajc 1994; Bernier 1994). However, results are comparable to gold grain results from modern alluvium studies completed immediately south of the study area (Morris, Crabtree and Averill 1998; Stephenson 1999).

A total of 304 gold grains were recovered from samples within the study area (Appendix G). Of these grains, 291 were reshaped, 12 were modified and 1 was pristine. The reshaped grains recovered from this study suggest some distance of transport.

Areas containing anomalous (>95th percentile) concentrations of modified or pristine gold grains are of interest in this study. Figure 21 shows 5 areas containing anomalous values of gold grains in this study, based on raw data. Many sites containing anomalous values of gold seem to be associated with regional faults associated with the Kapuskasing Structural Zone. The 95th percentile is the parameter used to define the limit of relative anomalous concentration of gold grains (Table 5).

Table 5: Summary of statistics for gold presented as raw data. Data was also normalized to table weight feed against 15 kg. See Appendix G.

	General Statistics				Percentile Statistics				
	Total grains	Max	Min	Total samples	98th	95th	90th	75th	50th
Total grains	304	14	0	507	5	3	2	1	0
Reshaped	291	14	0	507	5	4	2	1	0
Modified	12	2	0	507	1	0	0	0	0
Pristine	1	1	0	507	0	0	0	0	0

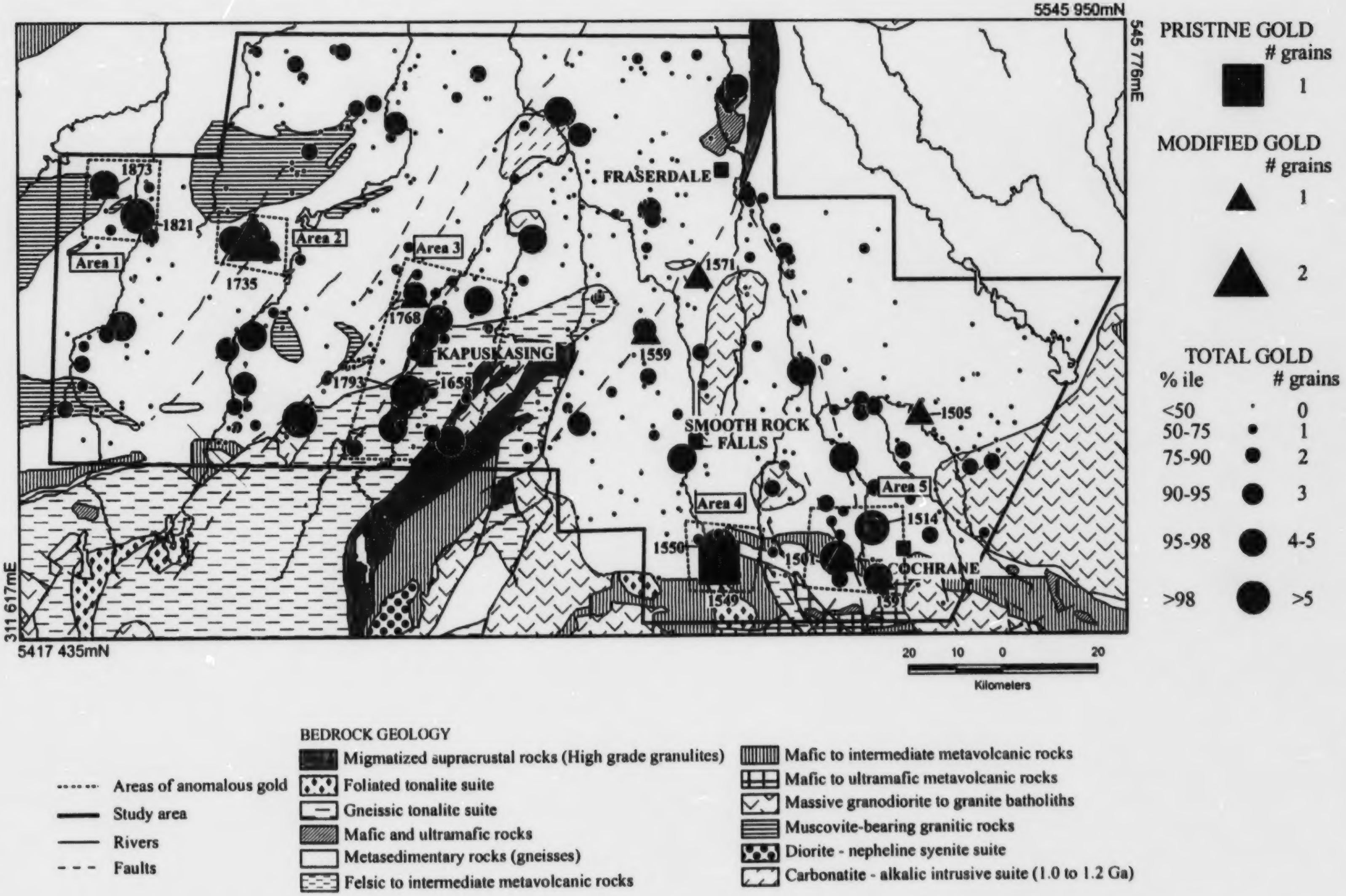
5545 950mN
545 776mE
311 617mE
5417 435mN
PRISTINE GOLD
# grains
1
MODIFIED GOLD
# grains
1
2
TOTAL GOLD
% ile
# grains
<50 0
50-75 1
75-90 2
90-95 3
95-98 4-5
>98 >5
FRASERDALE
KAPUSKASING
SMOOTH ROCK FALLS
COCHRANE
Area 1
Area 2
Area 3
Area 4
Area 5
1873
1821
1735
1768
1793
1658
1559
1571
1505
1550
1549
1501
1514
1591
20 10 0 20
Kilometers
BEDROCK GEOLOGY
Migmatized supracrustal rocks (High grade granulites)
Foliated tonalite suite
Gneissic tonalite suite
Mafic and ultramafic rocks
Metasedimentary rocks (gneisses)
Felsic to intermediate metavolcanic rocks
Mafic to intermediate metavolcanic rocks
Mafic to ultramafic metavolcanic rocks
Massive granodiorite to granite batholiths
Muscovite-bearing granitic rocks
Diorite - nepheline syenite suite
Carbonatite - alkalic intrusive suite (1.0 to 1.2 Ga)
Areas of anomalous gold
Study area
Rivers
Faults

Figure 21: Regional distribution of gold grains based on raw data. There are five areas containing anomalous (>95th percentile + modified/pristine grains) values of gold grains in this study.

Conclusions

Data obtained from modern alluvium sampling can help interpret heavy mineral and gold signatures in the Kapuskasing–Fraserdale area. Results from the study reveal several sites favourable for kimberlite and base metal exploration.

One "G10" Cr-pyrope garnet, 1 diamond inclusion field chromite and several other kimberlite indicator minerals including; "G9" Cr-pyrope garnet, eclogitic garnets, megacrystic garnets, kimberlitic Cr-diopsides, ilmenites and forsteritic olivines have been recovered from modern alluvium samples. Low values of KIMs within individual samples may be the result of long transport distances in multiple directions resulting in reworking of indicator grains. Many samples collected from the Kapuskasing–Fraserdale area contain minerals commonly associated with the Moose River Basin suggesting provenance from that area.

Results for metamorphic or magmatic massive sulphide indicator minerals for each mineral deposit type, namely the; volcanogenic massive sulphide and Ni-Cu sulphide deposits revealed a correlation with regional faults associated with the Kapuskasing Structural Zone. Gold grains also seemed to have an association with regional faults. Based on low numbers of total indicator minerals, few exploration sites could be recommended for skarn deposits.

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APPENDIX A: Sample Locations by UTM Coordinates and Townships.

Sample#		Easting	Northing	Township
99-KAP	1501	481993	5433667	Ottaway
99-KAP	1502	487016	5466548	Marven
99-KAP	1503	492894	5467499	Marven
99-KAP	1504	495139	5465807	Thorning
99-KAP	1505	498921	5464282	Thorning
99-KAP	1506	494795	5458329	Marven
99-KAP	1507	479510	5474975	Beniah
99-KAP	1508	479860	5475075	Beniah
99-KAP	1509	503955	5443538	Glackmeyer
99-KAP	1510	501626	5438445	Glackmeyer
99-KAP	1511	484228	5466514	Marven
99-KAP	1512	490160	5465875	Marven
99-KAP	1513	495860	5456325	Blount
99-KAP	1514	489692	5440202	Clute
99-KAP	1515	496215	5452546	Blount
99-KAP	1516	489935	5448375	Clute
99-KAP	1517	497293	5445903	Glackmeyer
99-KAP	1518	490406	5441593	Clute
99-KAP	1519	521165	5472865	Potter
99-KAP	1520	511387	5472049	Potter
99-KAP	1521	509031	5470892	Potter
99-KAP	1522	500447	5466538	Thorning
99-KAP	1525	489735	5440160	Clute
99-KAP	1526	480727	5441160	Clute
99-KAP	1527	483044	5443290	Clute
99-KAP	1528	479676	5445146	Calder
99-KAP	1529	482505	5438488	Clute
99-KAP	1531	444311	5429948	Laidlaw
99-KAP	1532	451829	5437753	Bradburn
99-KAP	1533	448791	5444257	Sydere
99-KAP	1534	448462	5444368	Sydere
99-KAP	1535	448507	5447819	Sydere
99-KAP	1536	462896	5490070	Adanac
99-KAP	1537	463197	5488636	Adanac
99-KAP	1538	462813	5470559	Webster
99-KAP	1539	449154	5449532	Haggart
99-KAP	1540	449192	5454716	Haggart
99-KAP	1541	454708	5451819	Kendry
99-KAP	1542	454161	5453460	Kendry
99-KAP	1543	467355	5428180	Lennox
99-KAP	1544	468651	5430704	Lennox
99-KAP	1545	468252	5434999	Calder
99-KAP	1546	468553	5437299	Calder
99-KAP	1547	467821	5441928	Calder
99-KAP	1548	467678	5441763	Calder
99-KAP	1549	456391	5432469	Dargavel
99-KAP	1550	456991	5436736	Bradburn
99-KAP	1551	456821	5438669	Bradburn
99-KAP	1552	452600	5437607	Bradburn
99-KAP	1553	453220	5476773	Webster

Sample#		Easting	Northing	Township
99-KAP	1554	453713	5469790	Webster
99-KAP	1555	454628	5467558	Webster
99-KAP	1556	443359	5459274	Alexandria
99-KAP	1557	443160	5459583	Alexandria
99-KAP	1558	443170	5461499	Haggart
99-KAP	1559	441261	5481212	Hurdman
99-KAP	1560	441462	5480106	Hurdman
99-KAP	1561	441237	5474668	Alexandria
99-KAP	1562	441963	5471646	Alexandria
99-KAP	1563	436601	5474582	Machin
99-KAP	1564	436250	5474090	Machin
99-KAP	1565	434268	5468479	Shackleton
99-KAP	1566	441507	5469977	Alexandria
99-KAP	1567	442597	5506448	Agate
99-KAP	1568	443064	5504823	Agate
99-KAP	1569	443027	5504508	Agate
99-KAP	1570	441736	5502012	Agate
99-KAP	1571	452367	5492770	Homuth
99-KAP	1572	454652	5489736	Adanac
99-KAP	1573	462665	5508390	Avon
99-KAP	1575	440765	5452278	Haggart
99-KAP	1576	440767	5452030	Haggart
99-KAP	1577	430674	5460273	Shackleton
99-KAP	1578	463368	5496418	Homuth
99-KAP	1579	427661	5462163	Shackleton
99-KAP	1580	427119	5442605	Carmichael
99-KAP	1581	439130	5476146	Alexandria
99-KAP	1582	400472	5458783	Swanson
99-KAP	1583	422784	5459292	Shackleton
99-KAP	1584	423079	5459634	Shackleton
99-KAP	1585	421275	5457210	Nansen
99-KAP	1586	416367	5457144	Nansen
99-KAP	1587	470746	5453088	Colquhoun
99-KAP	1588	471062	5452983	Colquhoun
99-KAP	1589	471109	5456417	Colquhoun
99-KAP	1590	482554	5429184	Ottaway
99-KAP	1591	490547	5429692	Fournier
99-KAP	1592	463008	5500049	Tucker
99-KAP	1593	463780	5503507	Homuth
99-KAP	1594	464373	5505987	Homuth
99-KAP	1595	464340	5506157	Homuth
99-KAP	1596	463517	5508092	Avon
99-KAP	1597	463214	5509718	Avon
99-KAP	1598	463650	5511915	Avon
99-KAP	1599	377723	5457375	Cargill
99-KAP	1600	380113	5457481	Sulman
99-KAP	1601	404564	5470035	O'Brien
99-KAP	1602	399062	5479345	Teetzel
99-KAP	1603	383192	5475358	Owens
99-KAP	1604	386041	5475236	Owens

Sample#		Easting	Northing	Township
99-KAP	1605	383698	5478604	Owens
99-KAP	1606	383597	5478926	Williamson
99-KAP	1607	383918	5482333	Williamson
99-KAP	1608	379899	5474309	Owens
99-KAP	1609	381009	5475468	Owens
99-KAP	1610	419534	5514116	Howells
99-KAP	1611	424692	5526532	Howells
99-KAP	1612	428007	5522465	Howells
99-KAP	1613	424489	5513538	Clay
99-KAP	1614	426160	5515267	Clay
99-KAP	1615	416042	5524145	Mowbray
99-KAP	1616	429569	5516865	Clay
99-KAP	1617	429454	5514816	Clay
99-KAP	1618	431938	5506304	Tucker
99-KAP	1619	435319	5505437	Tucker
99-KAP	1620	423612	5527357	Howells
99-KAP	1621	431097	5512533	Clay
99-KAP	1623	421564	5517490	Hopkins
99-KAP	1624	413975	5512943	Hopkins
99-KAP	1625	459107	5527630	Pinard
99-KAP	1626	458814	5528441	Pinard
99-KAP	1627	459351	5530437	Pinard
99-KAP	1628	459661	5530490	Pinard
99-KAP	1629	459625	5530705	Pinard
99-KAP	1630	460886	5532321	Pinard
99-KAP	1639	472175	5492865	Tolmie
99-KAP	1640	472943	5493504	Tolmie
99-KAP	1641	472251	5495193	Tolmie
99-KAP	1642	472044	5495331	Tolmie
99-KAP	1643	472213	5496059	Tolmie
99-KAP	1644	471207	5497677	Tolmie
99-KAP	1645	469920	5500337	Tolmie
99-KAP	1646	468948	5502498	Tolmie
99-KAP	1647	466420	5508779	Bourassa
99-KAP	1651	381503	5460149	Sulman
99-KAP	1652	388359	5461691	Sulman
99-KAP	1653	389590	5461704	Sulman
99-KAP	1654	389706	5464715	Owens
99-KAP	1655	395111	5464211	O'Brien
99-KAP	1656	394810	5465520	O'Brien
99-KAP	1657	393301	5468733	O'Brien
99-KAP	1658	391584	5468681	Owens
99-KAP	1659	395126	5477415	O'Brien
99-KAP	1660	395366	5479828	Teetzel
99-KAP	1661	398020	5483668	Teetzel
99-KAP	1662	398210	5485290	Teetzel
99-KAP	1663	398647	5485406	Teetzel
99-KAP	1664	399382	5487301	Teetzel
99-KAP	1665	401878	5490215	Teetzel
99-KAP	1666	401273	5490801	Teetzel

Sample#		Easting	Northing	Township
99-KAP	1667	428081	5472800	Machin
99-KAP	1668	429220	5479837	Beardmore
99-KAP	1669	430821	5483333	Beardmore
99-KAP	1670	431101	5487602	Beardmore
99-KAP	1671	431949	5488185	Beardmore
99-KAP	1672	432020	5488557	Beardmore
99-KAP	1673	432283	5489477	Beardmore
99-KAP	1674	431627	5492989	Tucker
99-KAP	1675	430313	5494667	Tucker
99-KAP	1676	430010	5501225	Tucker
99-KAP	1688	455559	5521509	Pinard
99-KAP	1690	355937	5463982	Ecclestone
99-KAP	1691	355151	5461805	Ecclestone
99-KAP	1692	355183	5461887	Ecclestone
99-KAP	1693	353692	5461768	Ecclestone
99-KAP	1694	368742	5496296	Neely
99-KAP	1696	361291	5480729	McCrea
99-KAP	1697	361447	5482861	McCrea
99-KAP	1698	360629	5485858	McCrea
99-KAP	1699	363061	5485246	McCrea
99-KAP	1700	366530	5486367	Idington
99-KAP	1701	462409	5517686	Avon
99-KAP	1702	460314	5519598	Avon
99-KAP	1703	460308	5519455	Avon
99-KAP	1704	458935	5522244	Pinard
99-KAP	1705	473657	5483017	Menapia
99-KAP	1706	474717	5472603	Beniah
99-KAP	1707	487016	5464075	Marven
99-KAP	1708	331241	5466853	Magladery
99-KAP	1709	335412	5462558	Rykert
99-KAP	1710	352300	5476187	Parnell
99-KAP	1711	352123	5476227	Parnell
99-KAP	1712	353169	5477643	Parnell
99-KAP	1713	322835	5459539	Caithness
99-KAP	1714	332115	5476212	Magladery
99-KAP	1715	392864	5477154	Owens
99-KAP	1716	326157	5499304	Devitt
99-KAP	1717	328042	5512709	Shannon
99-KAP	1718	327881	5506811	Devitt
99-KAP	1719	328741	5502684	Devitt
99-KAP	1720	336556	5513136	Sankey
99-KAP	1721	336947	5511602	Sankey
99-KAP	1722	336119	5507422	Eiber
99-KAP	1723	337196	5501094	Eiber
99-KAP	1724	336700	5496685	Eiber
99-KAP	1725	337684	5499924	Eiber
99-KAP	1726	341760	5495664	Eiber
99-KAP	1728	322791	5478538	Orkney
99-KAP	1729	324473	5480646	Staunton
99-KAP	1730	326638	5481613	Staunton

Sample#		Easting	Northing	Township
99-KAP	1731	329030	5484827	Staunton
99-KAP	1732	335388	5488198	Barker
99-KAP	1733	339267	5485305	Barker
99-KAP	1734	361827	5498099	McCowan
99-KAP	1735	358841	5501135	McCowan
99-KAP	1736	353602	5506798	McCowan
99-KAP	1737	360587	5502980	McCowan
99-KAP	1738	367006	5510456	Burritt
99-KAP	1739	391443	5498887	Nixon
99-KAP	1740	388840	5489520	Williamson
99-KAP	1741	364986	5482292	Idington
99-KAP	1742	369993	5486386	Idington
99-KAP	1743	403278	5467505	O'Brien
99-KAP	1744	403450	5467432	O'Brien
99-KAP	1745	396556	5460249	Swanson
99-KAP	1746	396528	5468546	O'Brien
99-KAP	1747	378137	5474139	Cumming
99-KAP	1748	373491	5468964	Cumming
99-KAP	1749	374434	5478436	Cumming
99-KAP	1751	425231	5468094	Machin
99-KAP	1752	424881	5465148	Machin
99-KAP	1753	425795	5464710	Machin
99-KAP	1754	425242	5481602	Beardmore
99-KAP	1755	414312	5483998	Gurney
99-KAP	1756	417909	5500413	Torrance
99-KAP	1758	415833	5491519	Gurney
99-KAP	1759	414357	5489085	Gurney
99-KAP	1760	408158	5481523	Gurney
99-KAP	1761	383210	5490236	Williamson
99-KAP	1762	383576	5489967	Williamson
99-KAP	1763	385720	5491595	Williamson
99-KAP	1764	388892	5494228	Nixon
99-KAP	1765	389892	5494497	Nixon
99-KAP	1766	393099	5493881	Nixon
99-KAP	1767	393297	5493013	Pearce
99-KAP	1768	392713	5489065	Williamson
99-KAP	1770	397280	5489275	Teetzel
99-KAP	1771	400628	5491597	Teetzel
99-KAP	1772	408713	5498450	Torrance
99-KAP	1773	407022	5494169	Pearce
99-KAP	1774	405785	5492227	Teetzel
99-KAP	1776	414950	5461204	Nansen
99-KAP	1777	420884	5465052	Fauquier
99-KAP	1778	401408	5539751	Bradley
99-KAP	1779	406537	5535106	Boyle
99-KAP	1780	401828	5530280	Boyle
99-KAP	1781	399734	5532807	Boyle
99-KAP	1782	354547	5461204	Ecclestone
99-KAP	1783	357118	5465400	Parnell
99-KAP	1784	357044	5465962	Parnell
99-KAP	1785	357281	5467290	Parnell
99-KAP	1786	357488	5468314	Parnell
99-KAP	1787	356782	5470620	Parnell
99-KAP	1788	357032	5474629	Parnell
99-KAP	1789	357262	5474805	Parnell
99-KAP	1790	358438	5480407	McCrea
99-KAP	1792	408112	5481575	Gurney
99-KAP	1793	368710	5463555	Cargill
99-KAP	1794	333491	5492390	Staunton
99-KAP	1795	333387	5492797	Caithness
99-KAP	1796	333813	5493173	Staunton
99-KAP	1797	337174	5509381	Sankey
99-KAP	1798	358801	5484406	McCrea
99-KAP	1799	354658	5479505	Parnell
99-KAP	1800	352926	5458704	Ecclestone
99-KAP	1801	366996	5461698	Cargill
99-KAP	1802	359018	5462005	Ecclestone
99-KAP	1803	365898	5459764	Cargill
99-KAP	1804	371108	5466485	Cumming
99-KAP	1805	349584	5488720	Barker
99-KAP	1806	349578	5488714	Barker
99-KAP	1807	332121	5478738	Magladery
99-KAP	1808	330963	5465773	Rykert
99-KAP	1809	326760	5464937	Rykert
99-KAP	1810	324553	5466041	Magladery
99-KAP	1811	319052	5465571	Caithness
99-KAP	1812	323392	5474267	Orkney
99-KAP	1813	319644	5481310	Shetland
99-KAP	1814	331252	5482778	Staunton
99-KAP	1815	331127	5482680	Staunton
99-KAP	1816	338899	5492625	Barker
99-KAP	1817	379947	5487252	Williamson
99-KAP	1818	361054	5499893	McCowan
99-KAP	1819	354667	5500406	McCowan
99-KAP	1820	334703	5505775	Devitt
99-KAP	1821	334577	5505846	Devitt
99-KAP	1822	337551	5509576	Sankey
99-KAP	1823	353071	5511787	Fleck
99-KAP	1824	367103	5516961	Burritt
99-KAP	1825	368260	5514617	Burritt
99-KAP	1826	369701	5515081	Burritt
99-KAP	1827	377461	5523930	Hillmer
99-KAP	1828	379109	5527177	Hillmer
99-KAP	1829	382445	5525404	McKnight
99-KAP	1830	391269	5514146	Weichel
99-KAP	1831	384921	5507047	Nixon
99-KAP	1832	365219	5525112	Hillmer
99-KAP	1833	360656	5528699	Sweet
99-KAP	1834	359727	5539841	McLeister
99-KAP	1835	358655	5540248	McLeister

Sample#		Easting	Northing	Township
99-KAP	1836	367744	5537452	Fryatt
99-KAP	1837	369389	5534431	Hillmer
99-KAP	1838	376217	5540137	Fryatt
99-KAP	1839	384329	5529154	McKnight
99-KAP	1841	384274	5520099	Weichel
99-KAP	1842	387778	5522000	Weichel
99-KAP	1843	393061	5522996	McKnight
99-KAP	1844	389084	5524844	McKnight
99-KAP	1845	388750	5532339	McKnight
99-KAP	1846	390915	5533508	McKnight
99-KAP	1847	389007	5540280	Haney
99-KAP	1848	394102	5538925	Bradley
99-KAP	1849	405451	5534695	Boyle
99-KAP	1850	406296	5487651	Teetzel
99-KAP	1851	404731	5474332	O'Brien
99-KAP	1852	392410	5457574	Sulman
99-KAP	1853	393683	5462064	Swanson
99-KAP	1854	384280	5477668	Owens
99-KAP	1855	374212	5471880	Cumming
99-KAP	1856	374123	5471446	Cumming
99-KAP	1857	355394	5482112	McCrea
99-KAP	1858	354571	5465892	Parnell
99-KAP	1859	351506	5458651	Ecclestone
99-KAP	1860	355842	5485901	McCrea
99-KAP	1861	336427	5477200	Magladery
99-KAP	1862	337026	5466391	Magladery
99-KAP	1863	328636	5458779	Rykert
99-KAP	1864	325896	5465720	Rykert
99-KAP	1865	320444	5465608	Caithness
99-KAP	1866	322648	5470384	Orkney
99-KAP	1867	322604	5475005	Orkney
99-KAP	1868	327735	5480827	Orkney
99-KAP	1869	331387	5484309	Staunton
99-KAP	1871	360295	5499550	McCowan
99-KAP	1872	344962	5505114	Eiber
99-KAP	1873	327657	5512310	Shannon
99-KAP	1874	344396	5512075	Sankey
99-KAP	1876	367130	5515538	Burritt
99-KAP	1877	370583	5519223	Burritt
99-KAP	1878	373335	5523529	Hillmer
99-KAP	1879	378960	5524552	Hillmer
99-KAP	1880	380655	5527920	McKnight
99-KAP	1881	393026	5513348	Weichel
99-KAP	1882	392017	5512690	Weichel
99-KAP	1883	384213	5506872	Nixon
99-KAP	1884	364940	5529033	Sweet
99-KAP	1885	360022	5535518	Sweet
99-KAP	1886	360166	5535554	Sweet
99-KAP	1887	366036	5540242	Fryatt
99-KAP	1889	369640	5533571	Hillmer

Sample#		Easting	Northing	Township
99-KAP	1890	377797	5539935	Fryatt
99-KAP	1892	388843	5523958	McKnight
99-KAP	1893	389519	5529619	McKnight
99-KAP	1894	391252	5532475	McKnight
99-KAP	1895	392048	5536271	McKnight
99-KAP	1896	393243	5537132	Haney
99-KAP	1899	405040	5484323	Teetzel
99-KAP	1901	424394	5495137	Tucker
99-KAP	1904	428632	5507338	Clay
99-KAP	1905	425722	5509454	Clay
99-KAP	1906	421966	5510925	Hopkins
99-KAP	1907	409916	5519294	Hopkins
99-KAP	1908	408974	5530324	Mowbray
99-KAP	1919	411262	5507521	Hopkins
99-KAP	1920	426380	5536796	Cockshutt
99-KAP	1921	425277	5537415	Cockshutt
99-KAP	1945	437383	5538344	Cockshutt
99-KAP	1946	439861	5537886	Traill
99-KAP	1947	441876	5535211	Sheldon
99-KAP	1948	437171	5533578	Howells
99-KAP	1949	430895	5523401	Howells
99-KAP	1950	435123	5501103	Tucker
99-KAP	1951	435691	5487073	Beardmore
99-KAP	1952	435200	5487290	Beardmore
99-KAP	1953	425072	5499173	Tucker
99-KAP	1954	425012	5505017	Tucker
99-KAP	1955	426882	5509843	Homuth
99-KAP	1956	422475	5508459	Clay
99-KAP	1959	408170	5530226	Boyle
99-KAP	1960	398571	5523470	Boyle
99-KAP	1971	402061	5504311	Pearce
99-KAP	1972	428045	5539277	Cockshutt
99-KAP	1973	420697	5538852	Harmon
99-KAP	2001	436848	5506053	Tucker
99-KAP	2002	441726	5508273	Marceau
99-KAP	2005	440971	5536249	Traill
99-KAP	2006	438934	5536153	Sheldon
99-KAP	2007	435559	5526073	Howells
99-KAP	2008	438427	5502456	Agate
99-KAP	2009	440571	5505619	Agate
99-KAP	2010	442834	5510774	Marceau
99-KAP	2011	450329	5509868	Marceau
99-KAP	2012	445764	5504420	Agate
99-KAP	2013	451478	5499782	Homuth
99-KAP	2014	441929	5496684	Marceau
99-KAP	2015	448417	5509803	Marceau
99-KAP	2016	449628	5503256	Agate
99-KAP	2017	441655	5498559	Agate
99-KAP	2018	442143	5491899	Agate
99-KAP	2019	448720	5488150	Hurdman

Sample#		Easting	Northing	Township
99-KAP	2020	451953	5485867	Adanac
99-KAP	2022	447623	5517436	Marceau
99-KAP	2023	439876	5515521	Marceau
99-KAP	2024	443325	5521415	Sheldon
99-KAP	2025	446220	5522535	Sheldon
99-KAP	2026	461845	5504718	Homuth
99-KAP	2027	440641	5485538	Hurdman
99-KAP	2028	446588	5492217	Hurdman
99-KAP	2029	450779	5486714	Hurdman
99-KAP	2030	448408	5516865	Marceau
99-KAP	2031	443205	5517133	Marceau
99-KAP	2032	440853	5518654	Marceau
99-KAP	2033	445599	5522735	Sheldon
99-KAP	2034	451056	5534332	Sheldon
99-KAP	2035	447502	5535042	Sheldon
99-KAP	2036	452647	5538744	Parliament
99-KAP	2038	443603	5489854	Hurdman
99-KAP	2040	446113	5538438	Traill
99-KAP	2042	455271	5534140	Pinard
99-KAP	2075	473752	5464859	Beniah
99-KAP	2076	468798	5469873	Beniah
99-KAP	2077	449312	5482309	Hurdman
99-KAP	2078	448238	5463672	Haggart
99-KAP	2079	487983	5498016	Agassiz
99-KAP	2080	479879	5505942	Tolmie
99-KAP	2091	466397	5465026	Beniah
99-KAP	2092	465060	5477531	Webster
99-KAP	2093	444347	5468286	Alexandria
99-KAP	2102	475392	5489100	Menapia
99-KAP	2150	483891	5472945	Marven
99-KAP	2151	484931	5491669	Ireland
99-KAP	2152	490999	5502216	Agassiz
99-KAP	2244	503481	5466599	Thorning
99-KAP	2253	430500	5454544	Shackleton
99-KAP	2254	432051	5449120	Shackleton
99-KAP	2255	436570	5447921	Carmichael
99-KAP	2256	439604	5446210	Sydere
99-KAP	2257	434858	5443284	Carmichael
99-KAP	2258	430040	5442329	Carmichael
99-KAP	2259	446063	5439141	Sydere
99-KAP	2260	445362	5443920	Sydere
99-KAP	2261	456944	5446878	Kendry
99-KAP	2262	472820	5455885	Colquhoun
99-KAP	2263	511116	5482466	Swartman
99-KAP	2268	533075	5482549	McQuibban
99-KAP	2269	531190	5479020	McQuibban
99-KAP	2284	511227	5457026	Laughton
99-KAP	2285	512477	5459612	Laughton
99-KAP	2286	516492	5461853	Laughton
99-KAP	2287	515926	5458569	Laughton
99-KAP	2288	516379	5456409	Laughton
99-KAP	2289	514806	5453919	Laughton
99-KAP	2290	510291	5452891	Laughton
99-KAP	2307	504544	5458891	Blount
99-KAP	2308	502666	5460567	Blount
99-KAP	2309	501003	5463094	Thorning
99-KAP	2310	500698	5464266	Thorning
99-KAP	2311	492326	5477929	Ireland
99-KAP	2312	520544	5481713	Swartman
99-KAP	2313	523906	5480493	McQuibban
99-KAP	2314	508664	5437465	Glackmeyer
99-KAP	2315	507707	5441354	Glackmeyer
99-KAP	2316	501781	5449905	Blount
99-KAP	2317	503132	5448123	Glackmeyer
99-KAP	2318	486781	5451424	Leitch
99-KAP	2319	484449	5457656	Leitch
99-KAP	2320	481122	5457938	Leitch
99-KAP	2321	482641	5459592	Leitch
99-KAP	2322	474277	5476121	Beniah
99-KAP	2323	474719	5475465	Beniah
99-KAP	2324	478304	5462661	Colquhoun
99-KAP	2325	481447	5464390	Marven
99-KAP	2326	487732	5465169	Marven
99-KAP	2327	489917	5465155	Marven
99-KAP	2328	472033	5446128	Calder
99-KAP	2329	454766	5460221	Kendry
99-KAP	2330	436609	5463361	Shackleton
99-KAP	2331	418800	5466554	Fauquier
99-KAP	2332	418799	5468760	Fauquier
99-KAP	2333	397801	5472770	O'Brien
99-KAP	2338	515075	5463471	Laughton
99-KAP	2339	519345	5465115	Potter
99-KAP	2340	504485	5424214	Brower
99-KAP	2341	513153	5438888	Kennedy
99-KAP	2342	508340	5460906	Blount
99-KAP	2343	512108	5471837	Potter
99-KAP	2345	503138	5466406	Thorning
99-KAP	2346	494619	5444840	Clute
99-KAP	2347	485445	5449635	Leitch
99-KAP	2348	488238	5437570	Clute
99-KAP	2358	522029	5479640	Swartman
99-KAP	2359	527077	5479186	McQuibban
99-KAP	2361	491003	5447230	Clute
99-KAP	2362	440639	5485535	Hurdman
99-KAP	2363	353537	5506759	McCowan
99-KAP	2405	519862	5462071	Laughton
99-KAP	2409	507866	5456680	Blount
99-KAP	2410	503033	5459613	Blount
99-KAP	2411	500273	5464919	Thorning
99-KAP	2412	494629	5486813	Ireland

Sample#		Easting	Northing	Township
99-KAP	2413	492212	5471215	Marven
99-KAP	2751	465187	5454993	Kendry
99-KAP	2752	468103	5448345	Calder
99-KAP	2753	471171	5430212	Lennox
99-KAP	2754	489727	5433606	Fournier
99-KAP	2755	499311	5428164	LaMarche
99-KAP	2756	483644	5455007	Leitch

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APPENDIX B: Summary Counts of Picked and Estimated Numbers of Kimberlite Indicator Mineral Grains.

Summary of Abbreviations

CR: Chromite
DC: Cr-Diopside
FO: Forsteritic Olivine
GO: Eclogitic Garnet
GP: Cr-Pyrope Garnet
IM: Ilmenite
KIMs: Kimberlite Indicator Minerals

*** Numbers in parentheses are an estimated number of grains within that sample

Note: Total KIMs includes picked and estimated grains.

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1501	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1502	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	12	0	14
1503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1504	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1505	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
1506	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1507	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1508	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26(50)	0	50
1509	No Sample	No Sample	3	No Sample						No Sample						0	0	0	0	0	0	0
1510	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	0	3
1511	0	0	4	0	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	30(50)	0	63
1512	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1513	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
1514	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1516	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15(25)	1	26
1517	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1518	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1519	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1521	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1522	No Sample	No Sample	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1525	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7	0	8
1526	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1527	No Sample	0	6	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1528	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6
1529	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
1531	0	0	7	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	10	0	12
1532	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
1533	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1534	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1535	3	4	15	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	23(35)	0	39
1536	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1537	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1539	0	0	6	0	0	0	0	0	0	0	0	0	1	4	0	0	0	0	0	13	0	18
1540	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1541	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1542	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1543	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1544	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15(25)	0	26
1546	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1547	0	2	3	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	20(100)	0	105
1548	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1549	2	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1551	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1552	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1553	0	0	5	0	0	0	0	0	0	0	0	0	0	4	0	1	0	0	0	20(75)	0	80
1554	0	1	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	0	5
1555	0	2	4	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
1556	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1557	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1558	No Sample	0	13	No Sample						0	0	0	0	0	0	0	0	0	0	0	1	1
1559	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1560	No Concentrate																					
1561	2	3	12	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	5
1562	No Sample	No Sample	1	No Sample						No Sample						0	0	0	0	0	0	0
1563	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1564	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1565	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	4
1566	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1567	0	1	7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	6
1568	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1569	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																	
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm					
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1570	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1571	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1573	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1575	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
1576	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1577	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7(15)	0	15
1578	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1579	0	7	11	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	20(75)	1	76
1580	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1581	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1583	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1584	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	9	0	10
1585	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1586	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1587	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7	0	8
1588	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1589	0	2	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1590	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1591	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1592	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1594	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1595	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1596	0	0	8	0	0	0	0	0	0	1	0	0	2	1	0	0	0	0	0	8	0	12
1597	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
1598	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1599	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	3
1600	0	3	8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	4
1601	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1602	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1603	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1604	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1605	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1606	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1607	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1608	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1609	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1611	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1613	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	12(25)	0	27
1614	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
1616	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
1617	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	1	6
1618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1619	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
1620	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1621	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	10(20)	0	21
1623	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1624	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	8	0	9
1625	0	2	11	0	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	45(150)	0	155
1626	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1627	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10(15)	0	15
1628	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	20
1629	0	0	4	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	30(75)	4	78
1630	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1640	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1641	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1642	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25(50)	0	50
1643	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1644	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1645	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																	
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm					
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1646	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1647	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1651	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1652	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1654	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1655	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
1659	0	1	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1660	No Sample	0	3	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1661	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1662	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1663	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1664	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1665	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1666	0	0	7	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4	0	6
1667	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1668	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1669	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1670	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1671	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1672	No Sample	0	3	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1673	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1674	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1675	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1676	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1688	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	5
1691	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1692	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1693	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1694	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1696	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	
00-KAP																			***	***		
1698	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1699	No Sample	No Sample	No Sample	No Sample						No Sample						No Sample						
1700	0	0	2	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2	0	4
1701	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1702	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1703	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1704	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1705	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1708	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1709	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1710	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1711	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1712	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1713	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1714	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1715	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1716	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1717	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1718	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1719	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
1720	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	5	0	7
1721	0	0	1	0	0	0	1	0	0	0	0	0	11	2	0	2	0	0	0	1	0	17
1722	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1723	0	0	3	0	0	0	1	0	0	1	0	0	55	10	0	3	0	0	5(20)	10(30)	0	120
1724	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1725	0	0	2	0	0	0	1	0	0	0	0	0	12	0	0	0	0	0	3(10)	12(20)	0	43
1726	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1728	0	0	1	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	17(40)	0	46
1729	0	0	1	0	0	0	0	0	0	0	0	0	4	2	0	0	0	1	3	15	0	25
1730	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1731	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1733	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1734	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1735	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1736	0	0	2	0	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	6	0	20
1737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1738	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1739	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1740	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1741	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2
1742	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1744	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
1746	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1747	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5(15)	0	17
1748	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1749	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1751	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1753	No Sample	0	7	No Sample						0	0	0	0	0	0	0	0	0	0	2	0	2
1754	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1755	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1756	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1758	0	1	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1759	0	3	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1760	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1761	No Sample	No Sample	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1762	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1763	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
1764	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1765	0	0	7	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	3
1766	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1767	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1770	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1771	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1772	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1773	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7(15)	0	15
1774	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
1776	0	3	4	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
1777	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1778	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1780	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1781	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1782	0	0	1	0	0	0	1	0	0	0	0	0	1	4	0	0	0	0	0	11(25)	1	32
1783	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1784	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1785	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	2	1	0	0	14(25)	0	32
1786	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1787	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1788	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1789	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
1790	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	1	1	5
1792	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1793	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1794	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1795	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1797	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1798	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	20(40)	0	42
1799	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	1	1
1800	0	0	4	0	0	0	0	0	0	0	0	0	10	12	0	1	3	0	30(100)	46(80)	0	206
1801	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1802	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1805	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1806	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1807	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3
1808	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	0	5
1809	0	0	6	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	2	0	5
1810	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1811	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	7	0	9
1812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3
1813	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1814	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1815	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1816	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1817	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1818	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1819	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
1820	0	0	7	0	0	0	0	0	0	0	0	0	12	2	0	0	0	0	7(15)	20(30)	0	59
1821	0	0	0	0	0	0	0	0	0	1	0	0	5	2	1	0	0	0	9(20)	11(20)	0	49
1822	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1823	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1824	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1825	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1826	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1827	0	0	3	0	0	0	0	0	0	1	0	0	19	4	0	0	0	0	15(30)	29(50)	1	105
1828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1829	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1831	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1832	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1834	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1835	0	0	5	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	0	5(20)	0	23
1836	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	15(30)	0	33
1837	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1838	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	4
1839	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	11	0	12
1841	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	0	1	0	1	0	6
1842	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1843	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1844	0	0	3	0	0	0	0	0	0	0	0	0	7	2	1	0	0	0	2(15)	44(75)	2	102
1845	0	0	1	0	0	0	1	1	0	0	0	0	16	8	0	1	0	0	0	20(40)	0	67
1846	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	2	22(40)	1	48
1847	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
1848	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1849	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1850	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1851	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1852	No Sample	0	1	No Sample						0	0	0	0	0	0	0	1	0	0	0	0	1
1853	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1854	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1855	0	6	37	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3
1856	0	0	6	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	8(30)	24(50)	0	88
1857	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1859	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1860	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1861	0	0	4	0	0	0	0	0	0	0	0	0	0	3	0	2	1	0	0	10(20)	0	26
1862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1863	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1865	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2
1866	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1867	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1868	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1869	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1871	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1872	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																	
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm					
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1873	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1874	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	3
1876	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1877	0	0	4	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	8(20)	4(10)	0	34
1878	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1879	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20(30)	0	30
1881	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1883	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
1884	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1885	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1886	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1889	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	0	3
1890	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1892	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	17(25)	0	26
1893	0	1	8	0	0	0	0	0	0	0	1	0	27	1	0	0	0	0	6(20)	1	0	50
1894	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	1	0	4
1895	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
1896	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
1899	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1901	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1904	No Sample	No Sample	1	No Sample						No Sample						0	0	0	0	0	0	0
1905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1906	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	1	12
1907	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1908	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1920	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1921	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1945	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	1	0	0	0	0	0	0	0	0	0	5	1	0	0	0	1	5(20)	61(100)	0	127

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
1947	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1948	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1950	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
1953	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1954	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1956	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1960	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	30(80)	0	81
2001	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2002	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6
2006	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2007	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2009	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2010	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2012	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2013	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	0	0	17	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4(15)	0	16
2017	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20(75)	0	75
2018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
Sample Number	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
2022	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	20
2023	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2024	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2025	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
2027	0	2	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2028	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
2030	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9
2031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2034	No Sample	No Sample		No Sample						No Sample						0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2038	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2040	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2042	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2076	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3
2077	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2078	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2079	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2091	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
2092	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2102	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2150	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2151	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2152	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2244	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	30(300)	0	302
2253	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																	Total KIMs
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm					
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*
00-KAP																			***	***		
2254	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2256	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2257	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2258	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2259	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2260	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2261	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2263	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2268	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2269	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2284	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25(50)	0	50
2285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2286	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2287	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2288	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3
2289	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2290	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
2307	0	0	2	0	0	0	1	0	0	0	0	0	0	4	0	0	1	0	0	40(60)	0	66
2308	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2309	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2310	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2311	0	1	4	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	2	0	5
2312	0	1	4	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	21(700)	0	705
2313	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15(30)	0	30
2314	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2315	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	20
2316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2317	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2318	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
2319	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2320	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
2321	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2322	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2323	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	8
2324	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
2325	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2326	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5
2327	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4(10)	0	10
2328	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2329	0	0	5(15)	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	10(50)	0	50
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2331	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2
2332	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2333	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2339	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2340	No Sample	0	0	No Sample						0	0	0	0	0	0	0	0	0	0	2	0	2
2341	No Sample	0	2	No Sample						0	0	0	0	0	0	0	0	0	0	1	0	1
2342	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2343	No Sample	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2346	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2347	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2348	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9(25)	0	25
2358	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	36	0	39
2359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2361	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
2362	0	1	7	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0	4
2363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2405	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	15(40)	0	41
2409	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2410	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15(25)	0	25
2411	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2412	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2

Sample Number	Selected PseudoKIMs			KIM Count (* species not rigorously picked; excluded from total)																		
	1.0-2.0 mm	0.5-1.0 mm	0.25-0.5 mm	1.0 to 2.0 mm						0.5 to 1.0 mm						0.25 to 0.5 mm						
	Low-Cr diopside	Low-Cr diopside	Low-Cr diopside	GP	GO	DC	IM	CR	FO*	GP	GO	DC	IM	CR	FO*	GP	GO*	DC	IM*	CR	FO*	Total KIMs
00-KAP																			***	***		
2413	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2751	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2753	No Sample	No Sample	0	No Sample						No Sample						0	0	0	0	0	0	0
2754	No Sample	0	1	No Sample						0	0	0	0	0	0	0	0	0	0	0	0	0
2755	No Sample	0	1	No Sample						0	0	0	0	0	0	1	0	0	0	0	0	1
2756	0	0	9	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	6
			TOTAL	0	0	0	8	1	0	8	1	2	247	124	8	56	14	10	17	483	24	4430

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APPENDIX C: Kimberlite Indicator Minerals in 507 Modern Alluvium Samples from the Kapuskasing-Fraserdale Area. Data is Presented as Raw and Normalized Values*.

Summary of Abbreviations

Kg:	Kilogram
GP:	Cr-Pyrope Garnet
R:	Raw
N:	Normalized
GO:	Eclogitic Garnet
CR:	Chromite
DIF:	Diamond Inclusion Field
Est.:	Estimated
L/K:	Lamprophyre and Kimberlite Field
OF:	Overlap Field
KIM:	Kimberlite Indicator Minerals
N-KIM:	Non-Kimberlite Indicator Minerals
Poss. KIM:	Possible Kimberlite Indicator Minerals
IM:	Ilmenite
DC:	Cr-Diopside
N-KIM (I-C):	Non-Kimberlite Indicator Mineral (Group I-Crustal Derived)
N-KIM (II-M):	Non- Kimberlite Indicator Minerals (Group II-Mantle Derived)
FO:	Forsteritic Olivine

* All data has been normalized by table weight feed (see Data Plotting Parameters-Appendix H)

** Where applicable, data has been normalized by count estimate – Est. (see Data Plotting Parameters-Appendix H)

*** Grains picked do not necessarily reflect number of KIMs. Some grains may have been misidentified and placed in another mineral category following microprobe analysis. Numbers in parentheses are an estimated number of grains not picked within that sample.

Sample	UTM		Township	Table	Garnets												Chromite**														
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1501	481993	5433667	Ottaway	10.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1502	487016	5466548	Marven	9.20	1	1	2	0	0	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	13	21	13	21	0	0
1503	492894	5467499	Marven	21.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1504	495139	5465807	Thorning	13.70	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	4	4	4	3	3
1505	498921	5464282	Thorning	8.60	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	8	14	8	14	0	0
1506	494795	5458329	Marven	13.80	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	1	1
1507	479510	5474975	Beniah	12.90	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1508	479860	5475075	Beniah	10.40	0	0	0	0	0	0	0	0	0	0	0	0	26(50)	0	0	0	0	0	0	0	0	19	27	37	53	1	1
1509	503955	5443538	Glackmeyer	11.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1510	501626	5438445	Glackmeyer	10.80	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	1	1	1	1	1	1	1	1	1	1
1511	484228	5466514	Marven	8.40	0	0	0	0	0	0	0	0	0	0	0	0	34(50)	0	0	0	0	0	0	0	0	26	46	38	68	2	4
1512	490160	5465875	Marven	14.20	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1513	495860	5456325	Blount	13.40	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	7	8	7	8	1	1
1514	489692	5440202	Clute	18.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1515	496215	5452546	Blount	11.90	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	4	3	4	0	0
1516	489935	5448375	Clute	13.00	0	0	0	0	0	0	0	0	0	0	0	0	15(25)	0	0	0	0	0	0	0	0	7	8	12	13	4	5
1517	497293	5445903	Glackmeyer	11.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1518	490406	5441593	Clute	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3	1	1
1519	521165	5472865	Potter	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1520	511387	5472049	Potter	16.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1521	509031	5470892	Potter	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1522	500447	5466538	Thorning	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1525	489735	5440160	Clute	11.50	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	5	7	5	7	1	1
1526	480727	5441160	Clute	15.80	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1527	483044	5443290	Clute	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1528	479676	5445146	Calder	14.40	2	2	2	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	0	0
1529	482505	5438488	Clute	16.90	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1531	444311	5429948	Laidlaw	13.60	1	1	1	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	9	10	9	10	0	0
1532	451829	5437753	Bradburn	12.40	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	6	5	6	0	0
1533	448791	5444257	Sydere	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1534	448462	5444368	Sydere	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1535	448507	5447819	Sydere	8.80	0	0	0	0	0	0	0	0	0	0	0	0	26(35)	0	0	0	0	0	0	0	0	18	31	24	41	1	2
1536	462896	5490070	Adanac	13.10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1537	463197	5488636	Adanac	13.20	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1538	462813	5470559	Webster	11.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	3	2	3	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	8	2	3	0	0	0	0	0	0	0	9	12
1502	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	2	0	0	0	0	0	14	23	17	28
1503	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1504	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4	4	8	9
1505	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2	3	5	0	0	0	0	0	9	16	13	23
1506	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	5	5
1507	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	4	5
1508	0	0	0	0	0	0	0	0	0	0	0	0	2	3	1	1	3	4	0	0	0	0	0	21	30	26	38
1509	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	3	4
1510	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	1	1	0	0	0	0	0	5	7	7	10
1511	9	1	2	1	2	7	13	7	13	1	2	0	0	0	4	7	0	0	0	0	0	0	0	34	61	41	73
1512	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2	4	4
1513	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	7	8	9	10
1514	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	1	1	3	2
1515	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	0	0	0	0	0	0	0	4	5	6	8
1516	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	1	0	0	0	0	8	9	13	15
1517	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3
1518	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	2	0	0	0	0	0	0	0	4	4	7	8
1519	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1521	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1522	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1525	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	3	0	0	0	0	0	0	0	5	7	9	12
1526	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	2	2	5	5
1527	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	2	2	0	0	0	0	0	1	1	6	5
1528	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	2	2	0	0	0	0	0	6	6	14	15
1529	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	1	1	1	1	1	0	0	6	5	7	6
1531	0	0	0	0	0	1	1	1	1	0	0	0	0	0	6	7	1	1	0	0	0	0	0	11	12	18	20
1532	0	0	0	0	0	1	1	1	1	3	4	0	1	1	4	5	0	0	0	0	0	0	0	7	8	14	17
1533	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7	6	4	4	0	0	0	0	0	1	1	12	11
1534	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1535	1	1	2	1	2	1	2	1	2	6	10	0	2	3	11	19	9	15	0	0	0	0	0	22	38	49	84
1536	1	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	3	3	3
1537	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
1538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2	3

Sample	UTM		Township	Table	Garnets												Chromite**																
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1539	449154	5449532	Haggart	5.50	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	0	0	14	38	14	38	1	3
1540	449192	5454716	Haggart	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1541	454708	5451819	Kendry	16.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1542	454161	5453460	Kendry	17.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1543	467355	5428180	Lennox	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1544	468651	5430704	Lennox	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1545	468252	5434999	Calder	12.90	0	0	0	0	0	0	0	0	0	0	0	0	16(25)	0	0	0	0	0	0	0	0	12	14	12	14	3	3
1546	468553	5437299	Calder	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1547	467821	5441928	Calder	9.10	0	0	0	0	0	0	0	0	0	0	0	0	25(100)	0	0	0	0	0	0	0	0	20	33	80	132	1	2
1548	467678	5441763	Calder	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1549	456391	5432469	Dargavel	12.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1550	456991	5436736	Bradburn	14.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1551	456821	5438669	Bradburn	13.20	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1552	452600	5437607	Bradburn	12.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1553	453220	5476773	Webster	10.10	1	1	1	0	0	0	0	0	0	0	0	0	24(75)	0	0	0	0	0	0	0	0	19	28	59	88	1	1
1554	453713	5469790	Webster	13.00	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	3	3	3	3	0	0
1555	454628	5467558	Webster	12.70	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1556	443359	5459274	Alexandria	12.20	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1557	443160	5459583	Alexandria	11.80	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1558	443170	5461499	Haggart	13.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1559	441261	5481212	Hurdman	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1560	441462	5480106	Hurdman	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1561	441237	5474668	Alexandria	12.90	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	1	1	1	1	3	3	3	3	1	1
1562	441963	5471646	Alexandria	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1563	436601	5474582	Machin	13.30	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1564	436250	5474090	Machin	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1565	434268	5468479	Shackleton	12.90	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1566	441507	5469977	Alexandria	9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1567	442597	5506448	Agate	13.00	0	0	0	0	0	0	0	0	0	0	1	1	6	0	0	0	0	1	1	1	1	5	6	5	6	0	0
1568	443064	5504823	Agate	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1569	443027	5504508	Agate	12.30	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	1	1	1	1	13	16	13	16	2	2
1570	441736	5502012	Agate	13.10	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1571	452367	5492770	Homuth	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1572	454652	5489736	Adanac	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1573	462665	5508390	Avon	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**										Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80				
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1539	1	0	0	0	0	1	3	1	3	3	8	0	0	0	4	11	2	5	0	0	0	0	0	15	41	25	68
1540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1541	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1542	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	3	3
1543	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1544	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1545	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	12	14	18	21
1546	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	2	2
1547	0	0	0	0	0	0	0	0	0	2	3	0	0	0	4	7	1	2	0	0	0	0	0	20	33	28	46
1548	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1549	0	0	0	0	0	0	0	0	0	1	1	0	0	0	6	7	2	2	0	0	0	0	0	1	1	10	12
1550	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1551	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	6	2	2	0	0	0	0	0	1	1	9	10
1552	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1553	0	0	0	0	0	0	0	0	0	2	3	0	0	0	4	6	1	1	0	0	0	0	0	20	30	28	42
1554	0	0	0	0	0	0	0	0	0	0	0	1	0	0	10	12	2	2	0	0	0	0	0	3	3	15	17
1555	0	0	0	0	0	0	0	0	0	0	0	1	3	4	2	2	2	2	0	0	0	0	0	4	5	8	9
1556	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	4	2	2	0	0	0	0	0	2	2	7	9
1557	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	3	4
1558	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	14	1	1	1	1	1	0	0	1	1	14	16
1559	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1561	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	19	1	1	0	0	0	0	0	4	5	22	26
1562	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1563	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	3	3
1564	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1565	0	0	0	0	0	0	0	0	0	0	0	1	0	0	7	8	2	2	0	0	0	0	0	0	0	9	10
1566	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	15	0	0	0	0	0	0	0	0	0	9	15
1567	0	0	0	0	0	0	0	0	0	1	1	0	0	0	7	8	1	1	0	0	0	0	0	6	7	16	18
1568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1569	0	0	0	0	0	0	0	0	0	0	0	0	3	4	1	1	1	1	0	0	0	0	0	17	21	21	26
1570	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	6	2	2	0	0	0	0	0	2	2	9	10
1571	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1572	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1573	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**																			
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1575	440765	5452278	Haggart	16.60	1	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0
1576	440767	5452030	Haggart	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1577	430674	5460273	Shackleton	11.00	0	0	0	0	0	0	0	0	0	0	0	0	7(15)	0	0	0	0	1	1	2	3	4	5	9	12	0	0
1578	463368	5496418	Homuth	16.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1579	427661	5462163	Shackleton	13.85	0	0	0	0	0	0	0	0	0	0	0	0	21(75)	0	0	0	0	0	0	0	0	14	15	50	54	1	1
1580	427119	5442605	Carmichael	16.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1581	439130	5476146	Alexandria	13.10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1582	400472	5458783	Swanson	11.60	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1583	422784	5459292	Shackleton	11.45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1584	423079	5459634	Shackleton	13.10	1	1	1	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	5	6	5	6	0	0
1585	421275	5457210	Nansen	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1586	416367	5457144	Nansen	10.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1587	470746	5453088	Colquhoun	12.20	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	5	6	5	6	2	2
1588	471062	5452983	Colquhoun	12.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1589	471109	5456417	Colquhoun	9.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1590	482554	5429184	Ottaway	15.10	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3	3	3	0	0
1591	490547	5429692	Fournier	12.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1592	463008	5500049	Tucker	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1593	463780	5503507	Homuth	12.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1594	464373	5505987	Homuth	13.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1595	464340	5506157	Homuth	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1596	463517	5508092	Avon	8.90	1	1	2	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	7	12	7	12	0	0
1597	463214	5509718	Avon	12.20	0	0	0	0	0	0	0	0	0	0	1	1	5	0	0	0	0	0	0	0	0	5	6	5	6	0	0
1598	463650	5511915	Avon	14.70	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	3	3	3	3	1	1
1599	377723	5457375	Cargill	9.00	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600	380113	5457481	Sulman	11.70	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	5	4	5	0	0
1601	404564	5470035	O'Brien	17.55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1602	399062	5479345	Teetzel	16.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1603	383192	5475358	Owens	18.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1604	386041	5475236	Owens	17.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1605	383698	5478604	Owens	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1606	383597	5478926	Williamson	18.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1607	383918	5482333	Williamson	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1608	379899	5474309	Owens	18.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1609	381009	5475468	Owens	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1575	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	9	0	0	0	0	0	0	0	2	2	12	11
1576	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1577	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	1	1	0	0	0	0	0	5	7	9	12
1578	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1579	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	18	1	1	1	0	0	1	1	14	15	34	37
1580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1581	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1582	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1583	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	3	4
1584	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9	10	0	0	0	0	0	0	0	7	8	16	18
1585	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1586	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	2	3
1587	0	0	0	0	0	1	1	1	1	0	0	0	0	0	3	4	1	1	0	0	0	0	0	6	7	12	15
1588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1589	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	21	1	2	0	0	0	0	0	0	0	14	22
1590	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	0	0	0	0	0	5	5	7	7
1591	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1592	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1593	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	1	1	3	4
1594	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1595	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1596	2	0	0	0	0	2	3	2	3	0	0	0	1	2	6	10	2	3	0	0	0	0	0	11	19	19	32
1597	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	5	6	7	9
1598	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5	5	6	6	0	0	0	0	0	5	5	17	17
1599	0	0	0	0	0	0	0	0	0	0	0	0	5	8	0	0	12	20	2	2	3	0	0	8	13	20	33
1600	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	9	12	0	0	0	0	0	6	8	15	19
1601	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1602	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1603	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1604	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1605	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1606	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1607	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1608	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	0	1	1	3	2
1609	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**																
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1610	419534	5514116	Howells	17.30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1611	424692	5526532	Howells	18.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1612	428007	5522465	Howells	15.70	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	0	0
1613	424489	5513538	Clay	16.20	0	0	0	0	0	0	0	0	0	0	0	0	12(25)	0	0	0	0	0	0	0	0	7	6	15	14	0	0
1614	426160	5515267	Clay	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	416042	5524145	Mowbray	16.10	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	0	0
1616	429569	5516865	Clay	15.90	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	5	5	5	5	0	0
1617	429454	5514816	Clay	18.80	1	1	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1618	431938	5506304	Tucker	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1619	435319	5505437	Tucker	17.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1620	423612	5527357	Howells	17.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1621	431097	5512533	Clay	16.20	0	0	0	0	0	0	0	0	0	0	0	0	11(20)	0	0	0	0	2	2	4	3	6	6	11	10	0	0
1623	421564	5517490	Hopkins	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1624	413975	5512943	Hopkins	14.20	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	6	6	6	6	0	0
1625	459107	5527630	Pinard	10.10	0	0	0	0	0	0	0	0	1	1	0	0	46(150)	0	0	0	0	4	6	13	19	38	56	124	184	2	3
1626	458814	5528441	Pinard	17.00	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	4	4	4	1	1
1627	459351	5530437	Pinard	18.30	0	0	0	0	0	0	0	0	0	0	0	0	10(15)	0	0	0	0	1	1	2	1	7	6	11	9	1	1
1628	459661	5530490	Pinard	13.20	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	0	0	0	0	0	0	0	7	8	14	16	0	0
1629	459625	5530705	Pinard	15.90	2	1	1	0	0	0	0	0	0	0	0	0	31(75)	0	0	0	0	1	1	2	2	20	19	48	46	0	0
1630	460886	5532321	Pinard	18.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1639	472175	5492865	Tolmie	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1640	472943	5493504	Tolmie	16.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1641	472251	5495193	Tolmie	18.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1642	472044	5495331	Tolmie	15.60	0	0	0	0	0	0	0	0	0	0	0	0	25(50)	0	0	0	0	0	0	0	0	21	20	42	40	2	2
1643	472213	5496059	Tolmie	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1644	471207	5497677	Tolmie	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	469920	5500337	Tolmie	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1646	468948	5502498	Tolmie	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1647	466420	5508779	Bourassa	17.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1651	381503	5460149	Sulman	13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1652	388359	5461691	Sulman	9.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1653	389590	5461704	Sulman	13.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1654	389706	5464715	Owens	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1655	395111	5464211	O'Brien	11.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1656	394810	5465520	O'Brien	9.20	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	3	2	3	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1611	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	2	2
1612	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
1613	1	0	0	0	0	1	1	1	1	5	5	1	1	1	0	0	2	2	0	0	0	0	0	9	8	16	15
1614	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
1616	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5	5	6	6
1617	0	0	0	0	0	0	0	0	0	0	0	0	2	2	10	8	3	2	1	1	1	0	0	4	3	18	14
1618	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1619	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	1	1	2	2
1620	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1621	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	0	9	8	11	10
1623	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1624	1	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	8	8	8	8
1625	3	1	1	1	1	4	6	4	6	1	1	0	1	1	6	9	6	9	1	0	0	0	0	49	73	64	95
1626	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	5	4
1627	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2	2	0	0	0	0	0	0	0	9	7	13	11
1628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	7	8	8	9
1629	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	4	1	1	1	1	23	22	28	26
1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1639	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1640	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1641	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1642	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	20	23	22
1643	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1644	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1646	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1647	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1651	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1652	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0	4	6	0	0	0	0	0	3	5	7	11
1653	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1654	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1655	0	0	0	0	0	0	0	0	0	0	0	1	2	3	2	3	2	3	0	0	0	0	0	2	3	6	8
1656	1	1	2	1	2	0	0	0	0	2	3	0	0	0	1	2	4	7	0	0	0	0	0	3	5	10	16

Sample	UTM		Township	Table	Garnets												Chromite**															
	East	North		Feed (Kg)	Picked GP***	(G9)		(G10)		Megacrysts		Picked GO***	Eclogitic		Crustal		Picked CR***	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP						R	N	R	N	R	N		R	N	R	N		R	N	R	N	R	N	R	N	R	N	R	N	R	N
1657	393301	5468733	O'Brien	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1658	391584	5468681	Owens	9.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1659	395126	5477415	O'Brien	12.20	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	1	2	1	2	1	2
1660	395366	5479828	Teetzel	17.30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1661	398020	5483668	Teetzel	14.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1662	398210	5485290	Teetzel	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1663	398647	5485406	Teetzel	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1664	399382	5487301	Teetzel	10.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1665	401878	5490215	Teetzel	18.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1666	401273	5490801	Teetzel	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1667	428081	5472800	Machin	14.10	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	6	5	6	0	0
1668	429220	5479837	Beardmore	14.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1669	430821	5483333	Beardmore	6.60	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1670	431101	5487602	Beardmore	11.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1671	431949	5488185	Beardmore	14.10	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1672	432020	5488557	Beardmore	13.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1673	432283	5489477	Beardmore	15.50	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1674	431627	5492989	Tucker	14.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1675	430313	5494667	Tucker	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1676	430010	5501225	Tucker	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1688	455559	5521509	Pinard	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1690	355937	5463982	Ecclestone	16.70	5	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1691	355151	5461805	Ecclestone	14.70	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1692	355183	5461887	Ecclestone	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1693	353692	5461768	Ecclestone	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1694	368742	5496296	Neely	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1696	361291	5480729	McCrea	12.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1697	361447	5482861	McCrea	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1698	360629	5485858	McCrea	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1699	363061	5485246	McCrea	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	366530	5486367	Idington	16.30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	1	0	0	1	1	1	1	0	0
1701	462409	5517686	Avon	13.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1702	460314	5519598	Avon	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1703	460308	5519455	Avon	15.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1704	458935	5522244	Pinard	18.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1657	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1658	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	2	3	5
1659	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	14	17	0	0	0	0	0	1	1	16	20
1660	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	0	1	1	3	3
1661	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	10	11	0	0	0	0	0	1	1	13	14
1662	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1663	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	2	2
1664	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	3	4
1665	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	0	0	3	2
1666	1	0	0	0	0	1	1	1	1	0	0	0	1	1	1	1	5	6	0	0	0	0	0	7	8	13	16
1667	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	9	0	0	0	0	0	0	0	0	0	8	9
1668	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1669	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	1	2
1670	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	1	1	4	5
1671	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	4	0	0	0	0	0	0	0	5	5
1672	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1673	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	1	1	4	4
1674	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2
1675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1676	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	4	4
1688	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	4	5	4
1691	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1692	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	2	2
1693	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1694	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1696	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1697	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1698	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	2	2
1699	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700	2	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	4	4	6	6
1701	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1702	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1703	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1704	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**																
	East	North		Feed (Kg)	Picked GP***	(G9)		(G10)		Megacrysts		Picked GO***	Eclogitic		Crustal		Picked CR***	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP						R	N	R	N	R	N		R	N	R	N		R	N	R	N	R	N	R	N	R	N	R	N	R	N
1705	473657	5483017	Menapia	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1706	474717	5472603	Beniah	18.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1707	487016	5464075	Marven	18.10	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1708	331241	5466853	Magladery	18.00	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	0	0	0	1	1	2	2	8	7	16	13	0	0
1709	335412	5462558	Rykert	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1710	352300	5476187	Parnell	19.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1711	352123	5476227	Parnell	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1712	353169	5477643	Parnell	17.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1713	322835	5459539	Caithness	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1714	332115	5476212	Magladery	16.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	392864	5477154	Owens	17.40	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1716	326157	5499304	Devitt	15.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1717	328042	5512709	Shannon	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1718	327881	5506811	Devitt	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1719	328741	5502684	Devitt	16.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1720	336556	5513136	Sankey	10.80	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	7	5	7	0	0
1721	336947	5511602	Sankey	12.90	2	2	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3	3	3	0	0
1722	336119	5507422	Eiber	17.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1723	337196	5501094	Eiber	12.50	4	4	5	0	0	0	0	0	0	0	0	0	20(30)	0	0	0	0	0	0	0	0	18	22	27	32	0	0
1724	336700	5496685	Eiber	19.40	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1725	337684	5499924	Eiber	14.50	0	0	0	0	0	0	0	0	0	0	0	0	12(20)	0	0	0	0	0	0	0	0	10	10	17	17	0	0
1726	341760	5495664	Eiber	17.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1728	322791	5478538	Orkney	9.50	0	0	0	0	0	0	0	0	0	0	0	0	20(40)	0	0	0	0	0	0	0	0	16	25	32	51	1	2
1729	324473	5480646	Staunton	11.30	0	0	0	0	0	0	0	0	0	0	1	1	17	0	0	0	0	1	1	1	1	6	8	6	8	0	0
1730	326638	5481613	Staunton	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1731	329030	5484827	Staunton	19.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1732	335388	5488198	Barker	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1733	339267	5485305	Barker	18.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1734	361827	5498099	McCowan	17.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1735	358841	5501135	McCowan	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1736	353602	5506798	McCowan	12.60	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	1	1	1	1	6	7	6	7	0	0
1737	360587	5502980	McCowan	14.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1738	367006	5510456	Burritt	16.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1739	391443	5498887	Nixon	16.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1740	388840	5489520	Williamson	20.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1705	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1706	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1707	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	1	0	0	11	9	13	11
1708	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1709	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1711	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1712	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1713	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5	4	26	22	0	0	0	0	0	3	3	34	29
1716	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1717	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1718	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1719	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	2	4	4
1720	1	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	2	3	0	0	0	0	0	6	8	9	13
1721	12	0	0	0	0	9	10	9	10	4	5	0	1	1	0	0	0	0	0	0	0	0	0	15	17	19	22
1722	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1723	61(81)	8	10	11	13	53	64	70	84	11	13	0	2	2	0	0	1	1	0	0	0	0	0	85	102	97	116
1724	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
1725	16(26)	3	3	5	5	12	12	20	20	0	0	0	1	1	0	0	1	1	0	0	0	0	0	26	27	27	28
1726	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1728	3	2	3	2	3	1	2	1	2	0	0	0	1	2	0	0	0	0	0	0	0	0	0	20	32	21	33
1729	7	0	0	0	0	3	4	3	4	4	5	1	2	3	0	0	0	0	0	0	0	0	0	12	16	17	23
1730	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1731	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1733	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1734	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
1735	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1736	12	0	0	0	0	11	13	11	13	0	0	0	0	0	0	0	2	2	0	0	0	0	0	18	21	20	24
1737	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1738	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1739	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1740	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	2	1

Sample	UTM		Township	Table Feed (Kg)	Garnets												Chromite**																
	East	North			Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1741	364986	5482292	Idington	19.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1742	369993	5486386	Idington	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1743	403278	5467505	O'Brien	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1744	403450	5467432	O'Brien	15.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1745	396556	5460249	Swanson	16.50	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1746	396528	5468546	O'Brien	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1747	378137	5474139	Cumming	13.30	2	2	2	0	0	0	0	0	0	0	0	0	5(15)	0	0	0	0	0	0	0	0	5	6	15	17	0	0
1748	373491	5468964	Cumming	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1749	374434	5478436	Cumming	14.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1751	425231	5468094	Machin	15.80	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1752	424881	5465148	Machin	17.80	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1753	425795	5464710	Machin	15.70	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1754	425242	5481602	Beardmore	19.00	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1755	414312	5483998	Gurney	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1756	417909	5500413	Torrance	19.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1758	415833	5491519	Gurney	15.60	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	3	3	3	0	0
1759	414357	5489085	Gurney	15.30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1760	408158	5481523	Gurney	18.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1761	383210	5490236	Williamson	15.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1762	383576	5489967	Williamson	16.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0
1763	385720	5491595	Williamson	15.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1764	388892	5494228	Nixon	17.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1765	389892	5494497	Nixon	17.40	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1766	393099	5493881	Nixon	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1767	393297	5493013	Pearce	17.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1768	392713	5489065	Williamson	20.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1770	397280	5489275	Teetzel	15.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1771	400628	5491597	Teetzel	19.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1772	408713	5498450	Torrance	17.50	0	0	0	0	0	0	0	0	0	0	0	0	7(15)	0	0	0	0	0	0	0	0	6	6	13	13	0	0
1773	407022	5494169	Pearce	15.10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1774	405785	5492227	Teetzel	15.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1776	414950	5461204	Nansen	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1777	420884	5465052	Fauquier	9.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1778	401408	5539751	Bradley	18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1779	406537	5535106	Boyle	19.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80					
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1741	2	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1742	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
1743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1744	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
1745	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	0	0	1	1	1	0	0	4	4	6	5
1746	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1747	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	5	0	0	0	0	0	7	8	12	14
1748	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1749	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1751	0	0	0	0	0	0	0	0	0	0	0	0	5	5	20	19	9	9	0	0	0	0	0	5	5	34	32
1752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
1753	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	2	2	0	0	0	0	0	0	0	7	7
1754	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2
1755	0	0	0	0	0	0	0	0	0	0	0	0	1	1	9	8	9	8	0	0	0	0	0	3	3	21	19
1756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1758	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5	5	2	2	0	0	0	0	0	1	1	8	8
1759	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6	0	0	0	0	0	3	3	15	15
1760	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	2	2	3	2
1761	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1762	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1763	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	2	2	2	0	0	3	3	6	6
1764	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	6	0	0	0	0	0	0	0	7	6
1765	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	7	6	0	0	0	0	0	1	1	8	7
1766	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	2
1767	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	6	0	0	0	0	0	0	0	7	6
1768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1770	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1771	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1772	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1773	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	0	0	6	6	11	11
1774	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	5	5	1	0	0	0	0	1	1	6	6
1776	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	5	6	3	3	4	0	0	4	5	10	12
1777	0	0	0	0	0	0	0	0	0	0	0	0	2	3	2	3	3	5	0	0	0	0	0	2	3	7	11
1778	0	0	0	0	0	0	0	0	0	0	0	0	2	2	1	1	1	1	0	0	0	0	0	2	2	4	3
1779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table Feed (Kg)	Garnets												Chromite**															
	East	North			Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1780	401828	5530280	Boyle	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1781	399734	5532807	Boyle	16.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1782	354547	5461224	Ecclestone	10.20	0	0	0	0	0	0	0	0	0	0	0	0	15(25)	0	0	0	0	0	0	0	0	5	7	8	12	0	0
1783	357118	5465400	Parnell	8.70	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	3	5	0	0	0	0
1784	357044	5465962	Parnell	18.00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1785	357281	5467290	Parnell	13.60	2	2	2	0	0	1	1	1	0	0	0	0	18(25)	0	0	0	0	0	0	0	0	12	13	17	18	0	0
1786	357488	5468314	Parnell	16.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1787	356782	5470620	Parnell	14.60	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	2	2	2	1	1
1788	357032	5474629	Parnell	18.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1789	357262	5474805	Parnell	15.90	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1790	358438	5480407	McCrea	14.20	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1792	408112	5481575	Gurney	18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1793	368710	5463555	Cargill	17.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1794	333491	5492390	Staunton	16.60	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1795	333387	5492797	Caithness	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1796	333813	5493173	Staunton	14.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1797	337174	5509381	Sankey	15.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1798	358801	5484406	McCrea	12.50	0	0	0	0	0	0	0	0	0	0	0	0	20(40)	0	0	0	0	0	0	0	0	12	14	24	29	2	2
1799	354658	5479505	Parnell	17.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800	352926	5458704	Ecclestone	11.60	1	1	1	0	0	0	0	3	0	0	5	6	58(80)	0	0	0	0	0	0	0	0	47	61	65	84	4	5
1801	366996	5461698	Cargill	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1802	359018	5462005	Ecclestone	15.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1803	365898	5459764	Cargill	18.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1804	371108	5466485	Cumming	19.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1805	349584	5488720	Barker	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1806	349578	5488714	Barker	15.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1807	332121	5478738	Magladery	11.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	1	1
1808	330963	5465773	Rykert	13.60	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	3	3	3	3	0	0
1809	326760	5464937	Rykert	14.50	1	1	1	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	0	0
1810	324553	5466041	Magladery	12.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1811	319052	5465571	Caithness	15.10	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	5	5	5	5	0	0
1812	323392	5474267	Orkney	8.40	1	1	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	4	2	4	0	0
1813	319644	5481310	Shetland	11.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1814	331252	5482778	Staunton	14.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815	331127	5482680	Staunton	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1780	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1781	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1782	2	0	0	0	0	3	4	3	4	17	25	0	0	0	0	0	1	1	1	0	0	0	0	8	12	26	38
1783	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3	5
1784	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1785	0	1	1	1	1	3	3	3	3	4	4	0	0	0	0	0	0	0	0	0	0	0	0	19	21	23	25
1786	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	0	0	0	0	0	2	2	3	3
1787	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	4	4
1788	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1789	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	4	1	1	1	0	0	3	3	8	8
1790	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	0	0	5	5	5	5
1792	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1793	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1794	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	2
1795	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1796	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1797	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1798	2	0	0	0	0	2	2	2	2	0	0	0	0	0	0	0	1	1	0	0	0	0	0	14	17	17	20
1799	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	1
1800	40(100)	3	4	8	10	9	12	23	29	37	48	0	2	3	1	1	2	3	0	0	0	0	0	62	80	111	144
1801	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1802	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1803	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1804	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1805	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1806	1	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	2
1807	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1	3	4
1808	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
1809	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2	2	0	0	0	0	0	7	7	11	11
1810	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1811	1	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	7	7	7	7
1812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3	5
1813	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1814	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**														
	East	North		Feed (Kg)	Picked GP***	(G9)		(G10)		Megacrysts		Picked GO***	Eclogitic		Crustal		Picked CR***	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP						R	N	R	N	R	N		R	N	R	N		R	N	R	N	R	N	R	N	R	N	R	N	R	N
1816	338899	5492625	Barker	12.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1817	379947	5487252	Williamson	13.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1818	361054	5499893	McCowan	15.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1819	354667	5500406	McCowan	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1820	334703	5505775	Devitt	12.40	0	0	0	0	0	0	0	0	0	0	0	0	22(30)	0	0	0	0	0	0	0	0	19	23	26	31	0	0
1821	334577	5505846	Devitt	11.50	1	1	1	0	0	0	0	0	0	0	0	0	13(20)	0	0	0	0	0	0	0	0	9	12	14	18	1	1
1822	337551	5509576	Sankey	15.80	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1823	353071	5511787	Fleck	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1824	367103	5516961	Burritt	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1825	368260	5514617	Burritt	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1826	369701	5515081	Burritt	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1827	377461	5523930	Hillmer	14.30	1	1	1	0	0	0	0	0	0	0	0	0	33(50)	0	0	0	0	0	0	0	0	29	30	44	46	0	0
1828	379109	5527177	Hillmer	14.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1829	382445	5525404	McKnight	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830	391269	5514146	Weichel	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1831	384921	5507047	Nixon	12.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1832	365219	5525112	Hillmer	14.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1833	360656	5528699	Sweet	13.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1834	359727	5539841	McLeister	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1835	358655	5540248	McLeister	10.40	2	2	3	0	0	0	0	0	0	0	0	0	6(20)	0	0	0	0	0	0	0	0	6	9	20	29	0	0
1836	367744	5537452	Fryatt	9.20	1	1	2	0	0	0	0	0	0	0	0	0	16(30)	0	0	0	0	1	2	2	3	14	23	26	43	0	0
1837	369389	5534431	Hillmer	11.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1838	376217	5540137	Fryatt	8.80	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	3	2	3	1	2
1839	384329	5529154	McKnight	8.40	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	9	16	9	16	1	2
1841	384274	5520099	Weichel	12.30	1	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1842	387778	5522000	Weichel	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1843	393061	5522996	McKnight	9.90	0	0	0	0	0	0	0	0	0	0	1	2	2	0	0	0	0	0	0	0	0	1	2	1	2	0	0
1844	389084	5524844	McKnight	11.20	0	0	0	0	0	0	0	0	0	0	0	0	46(75)	0	0	0	0	2	3	3	4	39	52	64	85	0	0
1845	388750	5532339	McKnight	9.10	1	1	2	0	0	0	0	0	0	0	0	0	29(40)	0	0	0	0	0	0	0	0	18	30	25	41	2	3
1846	390915	5533508	McKnight	12.10	0	0	0	0	0	0	0	0	0	0	0	0	23(40)	1	1	2	2	0	0	0	0	18	22	31	39	1	1
1847	389007	5540280	Haney	13.40	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1848	394102	5538925	Bradley	9.70	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	1	2	0	0
1849	405451	5534695	Boyle	15.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1850	406296	5487651	Teetzel	13.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1851	404731	5474332	O'Brien	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1816	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1817	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1818	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1819	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1820	19(34)	5	6	9	11	17	21	30	37	6	7	0	3	4	1	1	3	4	0	0	0	0	0	1	1	1	1
1821	14(34)	1	1	2	3	6	8	15	19	2	3	0	0	0	0	0	0	0	1	1	1	0	0	44	53	54	65
1822	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	18	23	21	27
1823	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3
1824	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1825	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1826	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1827	34(64)	4	4	8	8	19	20	36	38	11	12	0	2	2	0	0	1	1	1	0	0	0	0	55	58	67	70
1828	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1829	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1831	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	2	2
1832	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1833	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1834	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1835	0	0	0	0	0	0	0	0	0	0	0	0	4	6	0	0	1	1	0	0	0	0	0	12	17	13	19
1836	1	0	0	0	0	1	2	1	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	17	28	18	29
1837	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1838	1	0	0	0	0	1	2	1	2	0	0	0	2	3	0	0	0	0	0	0	0	0	0	5	9	6	10
1839	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	16	10	18
1841	3	0	0	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	4	3	4
1842	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1843	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	1	2	3	5
1844	9(15)	1	1	2	2	6	8	10	13	6	8	0	1	1	0	0	2	3	3	2	3	1	1	51	68	60	80
1845	17	4	7	4	7	5	8	5	8	13	21	0	1	2	0	0	0	0	0	0	0	0	0	29	48	44	73
1846	6	1	1	1	1	5	6	5	6	1	1	0	0	0	0	0	0	0	1	1	1	0	0	26	32	28	35
1847	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	3	3
1848	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
1849	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1850	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1851	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**																	
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1852	392410	5457574	Sulman	17.60	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1853	393683	5462064	Swanson	16.10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1854	384280	5477668	Owens	19.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1855	374212	5471880	Cumming	17.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1856	374123	5471446	Cumming	14.40	4	4	4	0	0	0	0	0	0	0	0	0	25(50)	0	0	0	0	2	2	4	4	19	20	38	40	0	0
1857	355394	5482112	McCrea	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1858	354571	5465892	Parnell	15.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1859	351506	5458651	Ecclestone	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1860	355842	5485901	McCrea	15.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1861	336427	5477200	Magladery	13.20	2	2	2	0	0	0	0	1	0	0	1	1	13(20)	0	0	0	0	1	1	2	2	9	10	14	16	1	1
1862	337026	5466391	Magladery	14.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1863	328636	5458779	Rykert	13.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1864	325896	5465720	Rykert	12.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1865	320444	5465608	Caithness	16.60	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1866	322648	5470384	Orkney	9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1867	322604	5475005	Orkney	12.40	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1868	327735	5480827	Orkney	11.00	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1869	331387	5484309	Staunton	16.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1871	360295	5499550	McCowan	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1872	344962	5505114	Eiber	13.20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1873	327657	5512310	Shannon	11.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1874	344396	5512075	Sankey	11.90	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1876	367130	5515538	Burritt	11.90	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	3	2	3	0	0
1877	370583	5519223	Burritt	14.10	0	1	1	0	0	0	0	0	0	0	0	0	4(10)	0	0	0	0	0	0	0	0	2	2	5	5	0	0
1878	373335	5523529	Hillmer	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1879	378960	5524552	Hillmer	16.20	1	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1880	380655	5527920	McKnight	11.70	0	0	0	0	0	0	0	0	0	0	0	0	20(30)	0	0	0	0	1	1	2	2	19	24	29	37	0	0
1881	393026	5513348	Weichel	11.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1882	392017	5512690	Weichel	11.50	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1883	384213	5506872	Nixon	9.50	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	3	2	3	1	2
1884	364940	5529033	Sweet	10.30	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1885	360022	5535518	Sweet	7.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1886	360166	5535554	Sweet	12.50	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1887	366036	5540242	Fryatt	15.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1889	369640	5533571	Hillmer	8.90	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	3	2	3	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80					
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1852	0	0	0	0	0	0	0	0	0	2	2	0	1	1	0	0	0	0	0	0	0	0	0	1	1	4	3
1853	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	1	0	0	0	0	0	1	1	5	5
1854	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2
1855	1	0	0	0	0	1	1	1	1	0	0	0	3	3	1	1	39	33	0	0	0	0	0	6	5	46	39
1856	11(30)	3	3	8	9	7	7	19	20	11	11	0	2	2	0	0	4	4	0	0	0	0	0	37	39	52	54
1857	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1858	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1859	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	4	0	0	0	0	0	2	2	6	6
1860	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1861	0	0	0	0	0	1	1	1	1	0	0	0	3	3	0	0	1	1	0	0	0	0	0	16	18	19	22
1862	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1863	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1864	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1865	1	0	0	0	0	1	1	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	3	3	3
1866	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1867	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	1	1	0	0	0	0	0	3	4	5	6
1868	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	2	3	3	4
1869	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1871	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1872	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1873	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
1874	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	3
1876	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	3	4	3	4
1877	12(20)	1	1	2	2	10	11	17	18	0	0	0	2	2	0	0	2	2	0	0	0	0	0	16	17	18	19
1878	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1879	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	1	1	4	4
1880	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	26	20	26
1881	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1882	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1883	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	4	6	5	8
1884	0	0	0	0	0	0	0	0	0	0	0	0	5	7	0	0	1	1	0	0	0	0	0	6	9	7	10
1885	0	0	0	0	0	0	0	0	0	0	0	0	3	6	2	4	1	2	0	0	0	0	0	3	6	6	12
1886	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	0	0	4	5	4	5
1887	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1889	1	0	0	0	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	3	5

Sample	UTM		Township	Table	Garnets												Chromite**														
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
1890	377797	5539935	Fryatt	11.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1892	388843	5523958	McKnight	12.30	0	0	0	0	0	0	0	0	0	0	0	0	18(25)	1	1	1	2	0	0	0	0	18	22	25	30	1	1
1893	389519	5529619	McKnight	9.80	0	0	0	0	0	0	0	1	0	0	2	3	2	0	0	0	0	0	0	0	0	4	6	4	6	0	0
1894	391252	5532475	McKnight	13.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1895	392048	5536271	McKnight	7.1	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	4	8	4	8	1	2
1896	393243	5537132	Haney	14.9	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
1899	405040	5484323	Teetzel	17.3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1901	424394	5495137	Tucker	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1904	428632	5507338	Clay	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1905	425722	5509454	Clay	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1906	421966	5510925	Hopkins	15.3	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	10	10	10	10	0	0
1907	409916	5519294	Hopkins	17.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1908	408974	5530324	Mowbray	15.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	411262	5507521	Hopkins	14.3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1920	426380	5536796	Cockshutt	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	425277	5537415	Cockshutt	9.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	437383	5538344	Cockshutt	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	439861	5537886	Traill	8.9	0	0	0	0	0	0	0	0	0	0	1	2	62(100)	0	0	0	0	2	3	3	5	48	81	77	130	4	7
1947	441876	5535211	Sheldon	11.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	437171	5533578	Howells	9.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	430895	5523401	Howells	10.3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1950	435123	5501103	Tucker	12.3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1951	435691	5487073	Beardmore	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	435200	5487290	Beardmore	16	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
1953	425072	5499173	Tucker	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	425012	5505017	Tucker	11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	426882	5509843	Homuth	11.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	422475	5508459	Clay	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	408170	5530226	Boyle	15.4	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	398571	5523470	Boyle	12.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	402061	5504311	Pearce	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	428045	5539277	Cockshutt	9.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	420697	5538852	Harmon	11.8	1	1	1	0	0	0	0	0	0	0	0	0	30(80)	0	0	0	0	0	0	0	0	25	32	67	85	1	1
2001	436848	5506053	Tucker	10.6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2002	441726	5508273	Marceau	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80					
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
1890	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1892	0	0	0	0	0	1	1	1	1	2	2	0	1	1	0	0	0	0	0	0	0	0	0	21	26	24	29
1893	33(53)	1	2	2	2	23	35	37	57	4	6	0	3	5	2	3	4	6	0	0	0	0	0	31	47	43	66
1894	3	0	0	0	0	3	3	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3	3
1895	0	0	0	0	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	11	6	13
1896	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	3	3
1899	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	0	0	0	0	0	1	1	4	3
1901	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1904	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1905	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1906	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	0	0	11	11	12	12
1907	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	5	4	0	0	0	0	0	2	2	7	6
1908	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	2
1920	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1921	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
1946	10(30)	0	0	0	0	12	20	36	61	9	15	1	2	3	0	0	0	0	0	0	0	0	0	64	108	78	131
1947	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	3	2	3
1950	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2	2	2
1951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
1953	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	2	3
1955	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1
1959	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	2	2	0	0	0	0	0	5	5	7	7
1960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	33	27	34
2001	0	0	0	0	0	0	0	0	0	0	0	0	4	6	1	1	4	6	0	0	0	0	0	5	7	10	14
2002	0	0	0	0	0	0	0	0	0	0	0	0	2	3	3	4	0	0	0	0	0	0	0	2	3	5	7

Sample	UTM		Township	Table	Garnets												Chromite**																			
	East	North		Feed (Kg)	Picked GP***	(G9)		(G10)		Megacrysts		Picked GO***	Eclogitic		Crustal		Picked CR***	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM						
00-KAP						R	N	R	N	R	N		R	N	R	N		R	N	R	N	R	N	R	N	R	N	R	N	R	N					
2005	440971	5536249	Traill	15.5	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	5	5	5	0	0					
2006	438934	5536153	Sheldon	8.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2007	435559	5526073	Howells	12.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2008	438427	5502456	Agate	10.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2009	440571	5505619	Agate	15.1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0					
2010	442834	5510774	Marceau	14.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2011	450329	5509868	Marceau	11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2012	445764	5504420	Agate	11.5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0					
2013	451478	5499782	Homuth	15.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2014	441929	5496684	Marceau	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2015	448417	5509803	Marceau	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2016	449628	5503256	Agate	9.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2017	441655	5498559	Agate	12	0	0	0	0	0	0	0	0	0	0	0	0	4(15)	0	0	0	0	0	0	0	0	2	3	8	11	0	0					
2018	442143	5491899	Agate	11.3	0	0	0	0	0	0	0	0	0	0	0	0	20(75)	0	0	0	0	0	0	0	0	16	20	60	75	0	0					
2019	448720	5488150	Hurdman	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2020	451953	5485867	Adanac	13.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2022	447623	5517436	Marceau	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2023	439876	5515521	Marceau	15.3	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	0	0	0	0	0	0	0	8	11	16	22	1	1					
2024	443325	5521415	Sheldon	13.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2025	446220	5522535	Sheldon	14.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2026	461845	5504718	Homuth	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2027	440641	5485538	Hurdman	15.2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0					
2028	446588	5492217	Hurdman	13.6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0					
2029	450779	5486714	Hurdman	8.9	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2030	448408	5516865	Marceau	10.6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2031	443205	5517133	Marceau	14.2	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9	13	9	13	0	0					
2032	440853	5518654	Marceau	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2033	445599	5522735	Sheldon	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2034	451056	5534332	Sheldon	11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2035	447502	5535042	Sheldon	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2036	452647	5538744	Parliament	10.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2038	443603	5489854	Hurdman	14.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2040	446113	5538438	Traill	14.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2042	455271	5534140	Pinard	13.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
2075	473752	5464859	Beniah	10.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80					
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
2005	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	6	6
2006	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
2009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2
2010	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
2012	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2016	1	0	0	0	0	0	0	0	0	0	0	0	5	8	12	18	0	0	0	0	0	0	0	7	11	19	29
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	0	0	0	0	0	16	20	19	24
2018	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0	0	0	2	3	0	0	0	0	0	0	0	0	0	10	14	11	15
2023	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	2	2	2	2
2024	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
2027	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	13	0	0	0	0	0	0	0	1	1	14	14
2028	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2029	0	0	0	0	0	0	0	0	0	1	2	0	0	0	4	7	0	0	0	0	0	0	0	1	2	6	10
2030	0	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	5	7	0	0	0	0	0	12	17	17	24
2031	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2038	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2042	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2075	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Garnets												Chromite**														
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
2076	468798	5469873	Beniah	15.8	2	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2077	449312	5482309	Hurdman	14.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2078	448238	5463672	Haggart	15.5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2079	487983	5498016	Agassiz	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	479879	5505942	Tolmie	12.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2091	466397	5465026	Beniah	16.2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	4	4	4	0	0
2092	465060	5477531	Webster	15.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	444347	5468286	Alexandria	11.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2102	475392	5489100	Menapia	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2150	483891	5472945	Marven	13.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2151	484931	5491669	Ireland	13.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2152	490999	5502216	Agassiz	16.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2244	503481	5466599	Thorning	9.7	1	1	2	0	0	0	0	0	1	2	2	3	31(300)	0	0	0	0	0	0	0	0	26	40	252	389	3	5
2253	430500	5454544	Shackleton	10.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2254	432051	5449120	Shackleton	12.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2255	436570	5447921	Carmichael	11.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2256	439604	5446210	Sydere	14.6	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2257	434858	5443284	Carmichael	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2258	430040	5442329	Carmichael	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2259	446063	5439141	Sydere	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2260	445362	5443920	Sydere	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2261	456944	5446878	Kendry	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2262	472820	5455885	Colquhoun	11.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2263	511116	5482466	Swartman	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2268	533075	5482549	McQuibban	15.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2269	531190	5479020	McQuibban	12.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2284	511227	5457026	Laughton	13.3	0	0	0	0	0	0	0	0	0	0	0	0	25(50)	0	0	0	0	0	0	0	0	20	23	40	45	3	3
2285	512477	5459612	Laughton	15.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2286	516492	5461853	Laughton	14.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2287	515926	5458569	Laughton	14.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2288	516379	5456409	Laughton	15	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
2289	514806	5453919	Laughton	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2290	510291	5452891	Laughton	12.9	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	6	5	6	0	0
2307	504544	5458891	Blount	11.5	0	0	0	0	0	1	1	1	0	0	0	0	44(60)	0	0	0	0	0	0	0	0	36	47	49	64	4	5
2308	502666	5460567	Blount	14.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
2076	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	3	3	4	4
2077	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2078	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	7	7	0	0	0	0	0	0	0	8	8
2079	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2091	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
2092	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2093	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	0	0	0	0	0	0	0	0	4	5
2102	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2151	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2152	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2244	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	2	3	0	0	0	0	0	29	45	36	56
2253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2256	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	3	0	0	0	0	0	0	0	3	3	6	6
2257	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2258	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
2259	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	1	3
2260	0	1	2	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	2
2261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
2262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2263	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
2268	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	2	2
2269	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	23	23	26
2285	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2286	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2287	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2288	1	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4	4
2289	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	7	0	0	0	0	0	5	6	11	13
2307	1	0	0	0	0	1	1	1	1	2	3	0	0	0	0	0	2	3	0	0	0	0	0	38	50	46	60
2308	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1

Sample	UTM		Township	Table	Garnets												Chromite**																
	East	North		Feed (Kg)	Picked	(G9)		(G10)		Megacrysts		Picked	Eclogitic		Crustal		Picked	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP					GP***	R	N	R	N	R	N	GO***	R	N	R	N	CR***	R	N	R	N	R	N	R	N	R	N	R	N	R	N
2309	501003	5463094	Thorning	14.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2310	500698	5464266	Thorning	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2311	492326	5477929	Ireland	9.3	2	2	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	5	3	5	0	0
2312	520544	5481713	Swartman	13.1	0	0	0	0	0	0	0	0	0	0	0	0	26(700)	0	0	0	0	0	0	0	0	17	19	458	524	5	6
2313	523906	5480493	McQuibban	13.6	0	0	0	0	0	0	0	0	0	0	0	0	15(30)	0	0	0	0	0	0	0	0	9	10	18	20	5	6
2314	508664	5437465	Glackmeyer	17.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	507707	5441354	Glackmeyer	16.5	0	0	0	0	0	0	0	0	0	0	0	0	10(20)	0	0	0	0	0	0	0	0	7	6	14	13	3	3
2316	501781	5449905	Blount	16.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2317	503132	5448123	Glackmeyer	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2318	486781	5451424	Leitch	11	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2319	484449	5457656	Leitch	12.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2320	481122	5457938	Leitch	11.2	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2321	482641	5459592	Leitch	18.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2322	474277	5476121	Beniah	13.5	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2323	474719	5475465	Beniah	13.2	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	6	7	6	7	0	0
2324	478304	5462661	Colquhoun	13.7	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	2	2	2	2	0	0
2325	481447	5464390	Marven	14.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4	0	0
2326	487732	5465169	Marven	13.4	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	4	4	4	4	0	0
2327	489917	5465155	Marven	16.3	0	0	0	0	0	0	0	0	0	0	0	0	4(10)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2328	472033	5446128	Calder	14.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2329	454766	5460221	Kendry	8.8	1	1	2	0	0	0	0	0	0	0	0	0	12(50)	0	0	0	0	0	0	0	0	11	19	46	78	0	0
2330	436609	5463361	Shackleton	9.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2331	418800	5466554	Fauquier	14.8	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2332	418799	5468760	Fauquier	11.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2333	397801	5472770	O'Brien	14.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2338	515075	5463471	Laughton	18.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2339	519345	5465115	Potter	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2340	504485	5424214	Brower	16.7	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
2341	513153	5438888	Kennedy	18.6	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	1	0	0
2342	508340	5460906	Blount	14.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2343	512108	5471837	Potter	14.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	503138	5466406	Thorning	13.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2346	494619	5444840	Clute	10.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2347	485445	5449635	Leitch	12.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2348	488238	5437570	Clute	10.4	0	0	0	0	0	0	0	0	0	0	0	0	9(25)	0	0	0	0	0	0	0	0	9	13	25	36	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total		Total	
	Picked	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked	FO>80		FO<80		KIM grains		grains	
00-KAP	IM***	R	N	R	N	R	N	R	N	R	N	DC***	R	N	R	N	R	N	FO***	R	N	R	N	R	N	R	N
2309	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2311	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6	1	2	0	0	0	0	0	5	8	10	16
2312	0	0	0	0	0	1	1	1	1	0	0	0	2	2	0	0	3	3	0	0	0	0	0	20	23	28	32
2313	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	9	10	17	19
2314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	7	6	14	13
2316	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2317	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2318	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	2	3
2319	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	2	3	4	5
2321	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2322	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	2
2323	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2	0	0	0	0	0	6	7	9	10
2324	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	1	1	0	0	0	0	0	2	2	6	7
2325	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
2326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
2327	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	2	2
2328	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
2329	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	7	0	0	0	0	0	0	0	13	22	17	29
2330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2331	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1	2	2
2332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2333	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2338	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2339	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1
2340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2
2341	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	3	2
2342	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2343	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2346	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	2
2348	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	9	1	1	0	0	0	0	0	9	13	16	23

Sample	UTM		Township	Table Feed (Kg)	Garnets												Chromite**														
	East	North			Picked GP***	(G9)		(G10)		Megacrysts		Picked GO***	Eclogitic		Crustal		Picked CR***	DIF		Est. DIF		L/K		Est.L/K		OF		Est. OF		N-KIM	
00-KAP						R	N	R	N	R	N		R	N	R	N		R	N	R	N	R	N	R	N	R	N	R	N	R	N
2358	522029	5479640	Swartman	11.5	0	0	0	0	0	0	0	3	0	0	3	4	36	0	0	0	0	0	0	0	0	31	40	31	40	5	7
2359	527077	5479186	McQuibban	10.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2361	491003	5447230	Clute	12.1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4	5	4	5	0	0
2362	440639	5485535	Hurdman	11.4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	3	4	3	4	0	0
2363	353537	5506759	McCowan	13.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2405	519862	5462071	Laughton	11.2	0	0	0	0	0	0	0	0	0	0	0	0	16(40)	0	0	0	0	0	0	0	0	13	17	33	44	3	4
2409	507866	5456680	Blount	14.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2410	503033	5459613	Blount	10	0	0	0	0	0	0	0	0	0	0	0	0	15(25)	0	0	0	0	0	0	0	0	8	12	13	20	3	5
2411	500273	5464919	Thorning	14.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2412	494629	5486813	Ireland	15.5	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	2	2	2	0	0
2413	492212	5471215	Marven	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2751	465187	5454993	Kendry	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2752	468103	5448345	Calder	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2753	471171	5430212	Lennox	11.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2754	489727	5433606	Fournier	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2755	499311	5428164	LaMarche	13.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2756	483644	5455007	Leitch	8.50	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	1	2	1	2	5	9	5	9	0	0

Sample	Mg-ilmenite**											Cr-diopside							Olivine					Total KIM grains		Total grains	
	Picked IM***	KIM		Est.KIM		Poss. KIM		Est.Poss.KIM		N-KIM		Picked DC***	KIM		N-KIM (I-C)		N-KIM (II-M)		Picked FO***	FO>80		FO<80					
00-KAP		R	N	R	N	R	N	R	N	R	N		R	N	R	N	R	N		R	N	R	N	R	N	R	N
2358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	4	5	0	0	0	0	0	31	40	46	60
2359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2361	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	4	5	6	7
2362	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	11	0	0	0	0	0	0	0	3	4	11	14
2363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	13	17	17	23
2409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2410	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	8	12	12	18
2411	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2412	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	3	3	4	4
2413	0	0	0	0	0	0	0	0	0	0	0	0	3	3	4	4	1	1	0	0	0	0	0	3	3	8	7
2751	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2752	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2753	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2754	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2755	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1
2756	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	5	9	0	0	0	0	0	6	11	15	26

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APPENDIX E: Metamorphic/Magmatic Massive Sulphide Indicator Minerals in 507 Modern Alluvium Samples for the Kapuskasing-Fraserdale Area.

Summary of Abbreviations

Kg:	Kilogram
est.:	Estimate
Gth:	Goethite
MMSIM:	Metamorphic Massive Sulphide Indicator Mineral
KIM:	Kimberlite Indicator Mineral
Ky:	Kyanite
Sil:	Sillimanite
St:	Staurolite
Sps:	Spessartine
Fay:	Fayalite (Olivine)
Fo:	Forsterite (Olivine)
Opx:	Orthopyroxene
Cpy:	Clinopyroxene
Au:	Gold
Diop.:	Diopside
Low Cr-Diop:	Low Cr-Diopside
R:	Raw
N:	Normalized
amph.:	amphibole
f.e.:	ferroedenite
gross gnt (gg):	grossular garnet
ep:	epidote
paris:	parisite
zirk:	zirkelite
sph:	sphalerite
LC:	leucosphire corundum
stp:	strontiopyrochlore
monz:	monzanite
bas:	bastnaesite

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1501	10.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1502	9.20	0	0	0	Tr	1	1	0	0	0	0	Tr	45	Tr	0	0	0	0	0	0
1503	21.80	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
1504	13.70	0	0	0	Tr	1	1	0	0	0	0	12	450	0	0	0	0	Tr	1	0
1505	8.60	0	0	0	0	0	0	0	0	0	0	Tr	5	0	1	0	0	0	0	0
1506	13.80	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0	0
1507	12.90	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
1508	10.40	0	0	0	0	0	0	0	0	0	0	Tr	50	Tr	1	2	3	Tr	0	1
1509	11.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1510	10.80	Tr	1	1	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	Tr	0	0
1511	8.40	Tr	1	1	0	0	0	Tr	3	0	0	1	300	Tr	0	0	0	0	0	0
1512	14.20	Tr	5	5	0	0	0	Tr	1	0	0	Tr	5	Tr	1	0	0	0	0	0
1513	13.40	Tr	7	5	0	0	0	Tr	5	0	0	3	500	Tr	0	0	0	0	0	0
1514	18.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	1	1	1	0	0	0
1515	11.90	0	0	0	0	0	0	0	0	0	0	Tr	15	0	1	0	0	0	0	0
1516	13.00	Tr	1	1	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	0	0	0
1517	11.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1518	14.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1519	16.90	Tr	1	1	0	0	0	0	0	0	0	3	500	0	0	0	0	0	0	0
1520	16.30	Tr	2	2	0	0	0	0	0	0	0	Tr	15	0	0	0	0	0	0	0
1521	17.10	Tr	1	1	0	0	0	0	0	0	0	Tr	50	Tr	0	0	0	0	0	0
1522	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1525	11.50	Tr	1	1	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1526	15.80	0	0	0	0	0	0	0	0	0	0	Tr	50	0	0	0	0	0	0	0
1527	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1528	14.40	Tr	1	1	0	0	0	0	0	0	0	Tr	50	0	0	1	1	Tr	1	0
1529	16.90	Tr	5	5	0	0	0	0	0	0	0	Tr	20	0	0	0	0	Tr	0	1
1531	13.60	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
1532	12.40	Tr	1	1	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0
1533	16.70	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	**VMS** (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		**SKARN** (Fo, cpy, Au)		**Ni-Cu massive sulphide** (opx, low Cr-diop, chromite, rutile, cpy)	
														-	**R**	**N**	**R**	**N**	**R**	**N**
1501	8	Tr	0	0	0	0	15	1	1	5	0	0	9	-	9	12	9	12	9	12
1502	3	Tr	0	Tr	0	0	10	0	0	0	0	0	2	-	2	3	2	3	3	5
1503	0	0	0	Tr	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
1504	1	Tr	0	Tr	0	0	1	3	3	0	0	0	0	-	1	1	0	0	4	4
1505	4	Tr	0	Tr	0	0	5	0	0	0	2	0	2	-	4	7	2	3	6	10
1506	0	Tr	0	Tr	0	0	2	1	1	0	0	0	0	-	0	0	0	0	1	1
1507	1	Tr	0	Tr	0	0	3	0	0	0	0	0	1	-	1	1	1	1	1	1
1508	3	1	Tr	Tr	0	0	Tr	1	2	0	1	0	0	1 Mn epidote	4	5	0	0	6	9
1509	3	0	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	3	4
1510	1	0	0	Tr	0	0	Tr	1	1	0	0	0	2	1 Cr amph (f.e.)	3	4	3	4	3	4
1511	3	Tr	0	Tr	0	0	0.5	2	3	0	0	0	0	1 Mn epidote	1	2	1	2	7	12
1512	2	Tr	0	Tr	0	0	0.5	0	0	0	0	0	1	-	6	6	6	6	7	7
1513	1	Tr	0	1	0	0	Tr	1	1	0	0	0	2	-	9	10	9	10	9	10
1514	2	Tr	0	Tr	0	0	0.5	0	0	0	0	0	9	-	10	8	9	7	2	2
1515	1	Tr	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	1	1
1516	0	Tr	0	Tr	0	0	4	4	7	0	1	0	2	-	4	5	3	3	9	10
1517	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1518	2	0.5	Tr	2	0	0	Tr	1	1	0	0	0	0	-	0	0	0	0	3	3
1519	0	Tr	Tr	0	0	0	1	0	0	0	0	0	0	-	1	1	1	1	1	1
1520	0	Tr	Tr	Tr	0	Tr	2	0	0	0	0	0	0	-	2	2	2	2	2	2
1521	0	Tr	Tr	Tr	0	0	0	0	0	0	0	0	0	-	1	1	1	1	1	1
1522	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1525	2	Tr	Tr	Tr	0	0	Tr	1	1	0	1	0	2	-	4	5	3	4	5	7
1526	2	Tr	Tr	Tr	0	0	5	0	0	0	0	0	1	1 Mn epidote	1	1	1	1	2	2
1527	4	Tr	Tr	2	0	0	4	0	0	0	0	0	1	-	1	1	1	1	4	4
1528	8	Tr	Tr	1	Tr	0	5	0	0	0	0	0	2	-	5	5	3	3	9	9
1529	1	Tr	Tr	Tr	0	0	2	0	0	0	0	1	1	-	7	6	7	6	6	5
1531	3	Tr	Tr	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	3	3
1532	3	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	1	1	1	1	4	5
1533	8	Tr	0	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	8	7

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1534	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1535	8.80	Tr	4	4	Tr	1	1	0	0	0	0	1	600	0	0	1	2	0	0	0
1536	13.10	Tr	2	2	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1537	13.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1538	11.50	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	0	0	0	0	0	0
1539	5.50	Tr	3	3	0	0	0	0	0	0	0	Tr	100	Tr	0	1	3	0	0	0
1540	10.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1541	16.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1542	17.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1543	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1544	17.60	Tr	1	1	0	0	0	0	0	0	0	0.5	60	0	0	0	0	0	0	0
1545	12.90	Tr	2	2	0	0	0	0	0	0	0	4	2500	Tr	0	0	0	0	0	0
1546	15.30	0	0	0	Tr	2	2	0	0	0	0	Tr	20	0	0	0	0	0	0	0
1547	9.10	Tr	2	2	Tr	2	4	0	0	0	0	0	0	0	0	1	2	0	0	0
1548	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1549	12.90	0	0	0	0	0	0	0	0	0	0	Tr	5	0	0	1	1	0	0	0
1550	14.90	Tr	1	1	0	0	0	0	0	0	0	Tr	7	0	0	0	0	0	0	0
1551	13.20	0	0	0	Tr	1	1	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1552	12.20	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1553	10.10	Tr	8	8	0	0	0	Tr	1	0	0	1	750	0	0	3	4	0	0	0
1554	13.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1555	12.70	Tr	2	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
1556	12.20	Tr	1	1	0	0	0	0	0	0	0	Tr	20	0	1	0	0	0	0	0
1557	11.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1558	13.20	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	Tr	1	1
1559	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1560	14.10		No Concentrate														0			
1561	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	Tr	1	0
1562	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1563	13.30	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	0	1	1	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1534	0	0	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1535	18	Tr	0	0	0	0	Tr	1	1	0	0	0	0	-	5	9	4	7	23	40
1536	0	Tr	0	0	0	0	0.5	0	0	0	1	0	0	1 loellingite	3	3	2	2	3	3
1537	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1538	0	0	Tr	Tr	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1539	5	Tr	Tr	Tr	0	0	2	1	1	0	2	0	0	-	6	16	3	8	11	30
1540	1	Tr	0	Tr	0	0	7	0	0	0	0	0	4	-	4	6	4	6	1	1
1541	2	Tr	0	Tr	0	0	20	0	0	0	0	0	0	-	0	0	0	0	2	2
1542	3	Tr	0	Tr	0	0	30	0	0	0	0	0	0	-	0	0	0	0	3	3
1543	0	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1544	1	0	0	0	0	0	0	0	0	0	0	0	0	-	1	1	1	1	2	2
1545	3	Tr	0	0	0	0	4	3	5	0	0	0	1	-	3	3	3	3	10	11
1546	2	Tr	0	0	0	Tr	7	0	0	0	0	0	0	-	0	0	0	0	2	2
1547	5	Tr	0	0	Tr	0	1	1	4	0	2	0	0	-	5	8	2	3	13	21
1548	0	0	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1549	5	0	0	Tr	0	0	2	0	0	0	0	0	2	-	3	3	2	2	5	6
1550	0	Tr	0	Tr	0	0	3	0	0	0	0	0	8	-	9	9	9	9	1	1
1551	7	Tr	0	0	0	Tr	Tr	0	0	0	0	0	1	-	1	1	1	1	7	8
1552	0	0	0	0	0	0	3	0	0	0	0	0	1	-	1	1	1	1	0	0
1553	5	Tr	0	Tr	0	0	1	1	3	0	0	0	2	-	13	19	10	15	16	24
1554	7	0	0	0	0	0	10	0	0	0	3	0	1	1 Mn epidote	4	5	1	1	10	12
1555	3	Tr	0	1	0	0	35	0	0	0	0	0	0	-	2	2	2	2	5	6
1556	5	Tr	0	Tr	0	0	30	0	0	0	0	0	0	-	1	1	1	1	6	7
1557	2	Tr	0	Tr	0	0	15	0	0	0	0	0	1	-	1	1	1	1	2	3
1558	11	Tr	0	0	0	0	30	0	0	0	0	1	0	-	2	2	1	1	11	13
1559	0	0	0	0	0	0	0	0	0	0	0	0	3	-	3	3	3	3	0	0
1560													1	-	1	1	1	1	0	0
1561	15	0	Tr	Tr	Tr	0	Tr	1	1	0	4	0	0	-	7	8	0	0	20	23
1562	0	0	0	0	0	0	Tr	0	0	0	0	0	2	-	2	2	2	2	0	0
1563	1	Tr	0	0	0	0	5	0	0	0	0	0	0	-	1	1	0	0	1	1

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1564	10.30	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
1565	12.90	Tr	5	5	0	0	0	0	0	0	0	Tr	2	0	1	0	0	Tr	0	1
1566	9.00	Tr	2	2	0	0	0	0	0	0	0	0.5	300	0	1	4	7	0	0	0
1567	13.00	Tr	2	2	0	0	0	0	0	0	0	20	8000	0	1	0	0	Tr	0	2
1568	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1569	12.30	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
1570	13.10	0	0	0	0	0	0	0	0	0	0	Tr	1	0	2	4	5	Tr	2	1
1571	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1572	12.90	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1573	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1575	16.60	Tr	12	12	Tr	3	4	0	0	0	0	1	500	0	0	8	7	Tr	1	0
1576	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1577	11.00	Tr	9	9	Tr	3	3	0	0	0	0	3	1500	0	0	10	14	0	0	0
1578	16.60	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
1579	13.85	Tr	4	4	0	0	0	Tr	1	0	0	5	3000	Tr	0	2	2	0	0	0
1580	16.60	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1581	13.10	0	0	0	0	0	0	0	0	0	0	Tr	10	Tr	1	1	1	0	0	0
1582	11.60	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0
1583	11.45	Tr	2	2	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1584	13.10	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	1	1	0	0	0
1585	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1586	10.40	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
1587	12.20	Tr	1	1	0	0	0	0	0	0	0	Tr	100	0	0	0	0	0	0	0
1588	12.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1589	9.50	Tr	1	1	Tr	1	1	0	0	0	0	Tr	100	0	1	0	0	Tr	1	0
1590	15.10	Tr	1	1	0	0	0	0	0	0	0	0.5	100	0	0	0	0	0	0	0
1591	12.20	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0	0	0
1592	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1593	12.50	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
1594	13.40	Tr	1	1	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1564	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1565	6	Tr	0	Tr	0	0	3	0	0	0	0	0	1	-	7	8	6	7	11	13
1566	9	0	0	Tr	0	0	0.5	0	0	0	0	0	0	-	6	10	2	3	11	18
1567	8	Tr	0	Tr	Tr	0	1	0	0	0	0	0	3	1 uvarovite	7	8	5	6	10	12
1568	0	Tr	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1569	2	Tr	0	Tr	0	0	Tr	2	2	0	0	0	2	-	2	2	2	2	4	5
1570	5	Tr	0	Tr	Tr	0	5	0	0	0	0	0	0	-	7	8	0	0	5	6
1571	0	1	0	0	Tr	0	10	0	0	0	0	0	1	-	1	1	1	1	0	0
1572	0	Tr	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1573	0	0	0	0	0	0	20	0	0	0	0	0	0	-	0	0	0	0	0	0
1575	6	Tr	0	Tr	0	0	0	0	0	0	0	0	0	-	21	19	12	11	18	16
1576	2	Tr	0	Tr	0	0	4	0	0	0	0	0	0	-	0	0	0	0	2	2
1577	3	0	0	Tr	0	0	5	0	0	0	0	0	0	-	19	26	9	12	12	16
1578	0	Tr	0	0	Tr	0	10	0	0	0	0	0	1	1 Mn epidote	2	2	1	1	0	0
1579	14	Tr	Tr	0.5	Tr	Tr	5	1	4	0	0	0	3	-	9	10	7	8	22	23
1580	0	0	0	0	0	0	35	0	0	0	0	0	0	-	0	0	0	0	0	0
1581	0	Tr	0	Tr	0	0	7	0	0	0	0	0	0	-	1	1	0	0	0	0
1582	0	Tr	0	0	0	0	5	0	0	0	0	0	4	-	4	5	4	5	0	0
1583	3	Tr	0	Tr	0	0	7	0	0	0	0	0	0	-	2	3	2	3	5	7
1584	9	Tr	0	Tr	0	0	Tr	0	0	0	1	0	0	-	2	2	0	0	10	11
1585	0	0	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1586	2	Tr	0	Tr	0	Tr	Tr	0	0	0	0	0	1	-	1	1	1	1	2	3
1587	3	Tr	Tr	Tr	0	0	2	2	2	0	0	0	1	1Cr g.g.	2	2	2	2	6	7
1588	1	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	1	1
1589	13	Tr	0	1	Tr	0	7	0	0	0	0	0	0	1 Mn epidote	2	3	1	2	14	22
1590	2	Tr	0	Tr	0	0	3	0	0	0	1	0	2	-	4	4	3	3	4	4
1591	0	0	0	0	0	0	Tr	0	0	0	0	0	4	-	4	5	4	5	0	0
1592	0	Tr	0	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1593	2	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	2	2
1594	0	Tr	0	0	0	0	10	0	0	0	0	0	0	-	1	1	1	1	1	1

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1595	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1596	8.90	Tr	150	31	Tr	3	4	0	0	0	0	Tr	250	0	0	0	0	0	0	0
1597	12.20	Tr	3	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1598	14.70	0	0	0	0	0	0	0	0	0	0	0	0	Tr	1	1	1	Tr	3	0
1599	9.00	Tr	4	4	0	0	0	0	0	0	0	Tr	200	Tr	0	0	0	0	0	0
1600	11.70	Tr	3	3	Tr	1	1	0	0	0	0	3	800	0	1	0	0	Tr	2	0
1601	17.55	0	0	0	0	0	0	0	0	0	0	Tr	1	1	0	0	0	0	0	0
1602	16.50	0	0	0	0	0	0	0	0	0	0	3	100	Tr	0	0	0	0	0	0
1603	18.70	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1604	17.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1605	16.10	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1606	18.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1607	17.60	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
1608	18.75	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	1	0	0	0	0	0
1609	16.10	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
1610	17.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1611	18.70	0	0	0	0	0	0	0	0	0	0	Tr	5	2	0	0	0	0	0	0
1612	15.70	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1613	16.20	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1614	14.00	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0
1615	16.10	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1616	15.90	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	1	0	0	0	0	0
1617	18.80	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	2	2	Tr	2	1
1618	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1619	17.40	0	0	0	Tr	1	1	0	0	0	0	Tr	25	0	0	1	1	0	0	0
1620	17.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1621	16.20	Tr	1	1	0	0	0	0	0	0	0	Tr	10	2	0	0	0	0	0	0
1623	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1624	14.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1625	10.10	Tr	15	15	0	0	0	0	0	0	0	Tr	1	0	2	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1595	0	Tr	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1596	7	Tr	0	Tr	0	0	8	0	0	0	0	0	1	1 aegerine	151	254	151	254	157	265
1597	1	Tr	Tr	0	0	0	10	0	0	0	0	0	2	-	6	7	5	6	4	5
1598	8	Tr	0	Tr	0	0	10	1	1	0	4	0	0	3 stp,3 paris, 2bas,10 p/b/monz	8	8	0	0	13	13
1599	12	0	0	Tr	Tr	Tr	Tr	0	0	0	0	2	0	-	4	7	6	10	16	27
1600	9	0	0	0.5	Tr	0	0	0	0	0	0	0	2	-	7	9	5	6	12	15
1601	0	Tr	Tr	Tr	0	0	15	0	0	0	0	0	0	-	0	0	0	0	0	0
1602	1	Tr	0	Tr	0	0	20	0	0	0	0	0	1	-	1	1	1	1	1	1
1603	1	Tr	0	0	Tr	0	5	0	0	0	0	0	0	-	0	0	0	0	1	1
1604	0	0	0	0	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1605	0	0	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1606	0	2	0	0	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1607	1	0	0	Tr	Tr	0	10	0	0	0	0	0	0	-	0	0	0	0	1	1
1608	2	1	0	1	Tr	0	5	0	0	0	0	0	0	-	0	0	0	0	2	2
1609	0	0.5	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1610	0	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1611	1	1	0	Tr	0	0	5	0	0	0	1	0	3	-	4	3	3	2	2	2
1612	0	Tr	0	Tr	0	0	5	0	0	0	0	0	3	-	3	3	3	3	0	0
1613	2	Tr	Tr	Tr	0	0	3	0	0	0	14	0	0	-	14	13	0	0	16	15
1614	0	0	0	0	0	0	40	0	0	0	0	0	0	-	0	0	0	0	0	0
1615	0	Tr	0	0	Tr	0	10	0	0	0	1	0	1	-	2	2	1	1	1	1
1616	1	Tr	Tr	Tr	0	0	5	0	0	0	7	0	0	-	7	7	0	0	8	8
1617	9	0.5	0	Tr	Tr	0	15	1	1	0	0	1	0	-	5	4	1	1	10	8
1618	1	Tr	0	Tr	0	Tr	10	0	0	0	0	0	0	-	0	0	0	0	1	1
1619	0	Tr	Tr	Tr	0	Tr	3	0	0	0	0	1	1	-	2	2	2	2	0	0
1620	0	Tr	0	0	0	0	1	0	0	0	0	0	4	-	4	3	4	3	0	0
1621	2	Tr	0	1	Tr	0	2	0	0	0	18	0	0	-	19	18	1	1	21	19
1623	0	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1624	0	Tr	0	0	0	0	3	0	0	0	0	0	1	-	1	1	1	1	0	0
1625	11	Tr	0	Tr	0	0	1	2	7	0	16	0	1	-	32	48	16	24	49	72

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1626	17.00	0	0	0	0	0	0	0	0	0	0	Tr	15	0	0	0	0			
1627	18.30	Tr	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1628	13.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1629	15.90	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	2	0	0	Tr	1	0
1630	18.40	Tr	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1639	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1640	16.20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1641	18.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1642	15.60	Tr	3	3	0	0	0	0	0	0	0	1	350	0	0	0	0	0	0	0
1643	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1644	15.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1645	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1646	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1647	17.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1651	13.00	0	0	0	0	0	0	0	0	0	0	1	10	Tr	0	0	0	0	0	0
1652	9.90	Tr	1	1	0	0	0	0	0	0	0	Tr	20	0	0	0	0	0	0	0
1653	13.30	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1654	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1655	11.60	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	0	0	0	0	0	0
1656	9.20	Tr	6	6	Tr	1	1	0	0	0	0	1	800	Tr	0	0	0	0	0	0
1657	12.90	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
1658	9.90	Tr	1	1	0	0	0	0	0	0	0	Tr	5	Tr	0	0	0	0	0	0
1659	12.20	Tr	9	9	Tr	1	0	0	0	0	0	2	1000	Tr	0	0	0	0	0	0
1660	17.30	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1661	14.20	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	Tr	0	1
1662	12.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1663	13.10	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1664	10.80	0	0	0	0	0	0	0	0	0	0	Tr	5	0	0	0	0	0	0	0
1665	18.90	0	0	0	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
1666	12.50	0	0	0	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	Tr	0	1

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1626	0	Tr	Tr	Tr	0	Tr	15	1	1	0	1	0	1	-	2	2	1	1	2	2
1627	0	Tr	0	0	0	0	1	1	2	0	1	0	3	-	5	4	4	3	4	3
1628	1	Tr	0	Tr	0	0	2	0	0	0	7	0	1	-	8	9	1	1	8	9
1629	4	Tr	Tr	Tr	Tr	0	1	0	0	0	13	1	1	-	15	14	2	2	17	16
1630	0	Tr	0	0	0	0	Tr	0	0	0	0	0	3	-	4	3	4	3	1	1
1639	0	0	Tr	0	0	0	1	0	0	0	0	0	1	-	1	1	1	1	0	0
1640	0	0	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1641	0	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1642	0	Tr	0	Tr	0	0	Tr	2	4	0	0	0	0	-	3	3	3	3	7	7
1643	0	0	0	0	Tr	Tr	15	0	0	0	0	0	1	-	1	1	1	1	0	0
1644	0	0	Tr	Tr	0	Tr	5	0	0	0	0	0	2	-	2	2	2	2	0	0
1645	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1646	0	Tr	0	Tr	0	0	5	0	0	0	0	0	1	-	1	1	1	1	0	0
1647	0	0	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1651	0	0	0	0	0	Tr	20	0	0	0	0	0	0	-	0	0	0	0	0	0
1652	4	Tr	0	0	0	0	Tr	0	0	0	0	0	4	-	5	8	5	8	5	8
1653	0	Tr	0	0	0	0	40	0	0	0	0	0	1	-	1	1	1	1	0	0
1654	0	0	0	0	0	0	5	0	0	0	0	0	2	-	2	2	2	2	0	0
1655	4	Tr	0	Tr	0	0	20	0	0	0	1	0	0	-	1	1	0	0	5	6
1656	5	Tr	0	Tr	Tr	0	2	0	0	0	0	0	0	1Cr gross gnt	6	10	6	10	11	18
1657	0	Tr	0	0	0	0	10	0	0	0	0	0	4	-	4	5	4	5	0	0
1658	1	Tr	0	Tr	0	0	35	1	1	0	1	0	8	-	10	15	9	14	4	6
1659	15	Tr	0	Tr	0	0	20	0	0	0	0	0	0	1 Mn epidote	9	11	9	11	24	30
1660	2	0	0	Tr	0	0	1	0	0	0	0	0	3	-	3	3	3	3	2	2
1661	12	0	0	Tr	0	0	Tr	0	0	0	0	0	4	-	5	5	4	4	12	13
1662	0	0	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1663	1	Tr	0	0	0	0.5	15	0	0	0	0	0	0	-	0	0	0	0	1	1
1664	2	0	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	2	3
1665	3	0.5	0	Tr	Tr	0	Tr	0	0	0	0	0	0	-	0	0	0	0	3	2
1666	5	0.5	0	0.5	0	Tr	5	0	0	0	1	0	0	-	2	2	0	0	6	7

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1667	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1668	14.20	0	0	0	0	0	0	0	0	0	0	1	300	Tr	0	0	0	0	0	0
1669	6.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1670	11.40	Tr	1	1	Tr	1	1	0	0	0	0	Tr	40	Tr	0	0	0	0	0	0
1671	14.10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	1
1672	13.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1673	15.50	0	0	0	0	0	0	0	0	0	0	Tr	20	0	0	0	0	0	0	0
1674	14.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1675	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1676	16.80	0	0	0	0	0	0	0	0	0	0	Tr	5	0	0	1	1	0	0	0
1688	15.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1690	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1691	14.70	Tr	1	1	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	Tr	0	1
1692	16.70	0	0	0	0	0	0	0	0	0	0	Tr	5	0	1	0	0	0	0	0
1693	17.50	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
1694	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1696	12.60	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1697	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1698	17.10	0	0	0	0	0	0	0	0	0	0	Tr	50	Tr	1	0	0	0	0	0
1699	15.30	no concentrate															0			
1700	16.30	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	Tr	1	0
1701	13.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1702	17.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1703	15.40	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
1704	18.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1705	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1706	18.00	0	0	0	0	0	0	0	0	0	0	Tr	4	0	0	0	0	0	0	0
1707	18.10	Tr	3	3	0	0	0	0	0	0	0	Tr	1	0	1	0	0	Tr	1	0
1708	18.00	0	0	0	0	0	0	0	0	0	0	0.5	1	1	0	0	0	0	0	0
1709	14.60	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1667	8	0	0	Tr	Tr	Tr	5	0	0	0	0	0	0	-	0	0	0	0	8	9
1668	0	Tr	0	1	0	0	15	1	1	0	0	0	0	-	0	0	0	0	1	1
1669	1	Tr	0	Tr	0	0	0	0	0	0	0	0	0	-	0	0	0	0	1	2
1670	2	0.5	0	Tr	0	Tr	30	0	0	0	0	0	1	1Cr gross gnt	2	3	2	3	3	4
1671	5	Tr	0	Tr	0	Tr	Tr	0	0	0	0	0	1	1 fluorite	2	2	1	1	5	5
1672	1	Tr	0	0	0	Tr	7	0	0	0	0	0	0	-	0	0	0	0	1	1
1673	1	Tr	0	Tr	0	0	10	0	0	0	0	0	0	1Mn epidote	0	0	0	0	1	1
1674	1	1	0	Tr	Tr	Tr	4	0	0	0	2	0	0	-	2	2	0	0	3	3
1675	1	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	1	1
1676	4	Tr	0	0	0	0	2	0	0	0	13	0	0	1 Mn epidote	14	13	0	0	17	15
1688	0	0	0	0	0	0	Tr	0	0	0	0	0	0	1 bastnaesite	0	0	0	0	0	0
1690	0	Tr	Tr	1	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1691	0	0.5	0	Tr	0	0	10	0	0	0	0	0	1	-	3	3	2	2	1	1
1692	1	0	0	2	0	0	5	0	0	0	2	0	0	-	2	2	0	0	3	3
1693	0	Tr	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1694	0	0	0	0	0	0	2	0	0	0	0	0	1	-	1	1	1	1	0	0
1696	0	Tr	0	Tr	Tr	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1697	0	Tr	0	Tr	0	0	35	0	0	0	0	0	0	-	0	0	0	0	0	0
1698	1	Tr	0	2	0	0	5	0	0	0	0	0	0	-	0	0	0	0	1	1
1699													1	-	1	1	1	1	0	0
1700	2	Tr	0	Tr	0	Tr	15	0	0	0	2	0	0	-	3	3	0	0	4	4
1701	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1702	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1703	0	0	0	0	0	0	15	0	0	0	0	0	0	1 epidote	0	0	0	0	0	0
1704	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1705	0	0	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1706	0	0	0	0	0	0	2	0	0	0	0	0	5	-	5	4	5	4	0	0
1707	2	Tr	Tr	Tr	0	0	7	0	0	0	0	1	2	-	6	5	6	5	5	4
1708	0	0	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1709	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1710	19.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1711	17.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1712	17.30	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
1713	12.80	0	0	0	0	0	0	0	0	0	0	0.5	1	2	0	0	0	0	0	0
1714	16.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1715	17.40	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
1716	15.90	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1717	14.50	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0
1718	12.50	0	0	0	0	0	0	0	0	0	0	5	20	Tr	0	0	0	0	0	0
1719	16.00	Tr	3	3	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	0	0	0
1720	10.80	Tr	1	1	0	0	0	0	0	0	0	0.3	100	Tr	0	0	0	0	0	0
1721	12.90	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	1	0	0	0	0	0
1722	17.90	0	1	1	Tr	2	2	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
1723	12.50	Tr	9	9	0	1	1	Tr	3	0	0	3	2000	Tr	0	0	0	0	0	0
1724	19.40	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	Tr	1	0
1725	14.50	Tr	1	1	0	0	0	0	0	0	0	2	250	0	0	0	0	0	0	0
1726	17.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1728	9.50	0	0	0	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	0	0	0
1729	11.30	Tr	1	1	0	0	0	Tr	1	0	0	25	1000	Tr	0	0	0	0	0	0
1730	17.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1731	19.50	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1732	16.80	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1733	18.80	0	0	0	0	0	0	0	0	0	0	Tr	6	0	0	0	0	0	0	0
1734	17.00	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0
1735	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1736	12.60	Tr	4	4	Tr	1	1	Tr	12	0	0	10	5000	Tr	2	0	0	0	0	0
1737	14.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1738	16.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1739	16.20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1740	20.20	0	0	0	0	0	0	0	0	0	0	1	70	Tr	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1710	0	1	Tr	Tr	0	0	20	0	0	0	0	0	0	-	0	0	0	0	0	0
1711	0	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1712	0	0	0	0	0	0	3	0	0	0	0	0	3	-	3	3	3	3	0	0
1713	0	0	0	0	Tr	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1714	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1715	32	Tr	0	Tr	0	0	Tr	0	0	0	0	0	2	-	2	2	2	2	32	28
1716	0	0	0	1	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1717	0	0	0	Tr	0	0	3	0	0	0	0	0	2	-	2	2	2	2	0	0
1718	0	0	Tr	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1719	1	0.5	Tr	Tr	Tr	0	5	0	0	0	0	0	1	-	4	4	4	4	4	4
1720	1	Tr	0	Tr	0	Tr	20	0	0	0	2	0	0	1Mn ep, 1paris	3	4	1	1	4	6
1721	0	Tr	Tr	4	0	0	Tr	0	0	0	3	0	1	1Mn epidote	4	5	1	1	3	3
1722	0	1	0	Tr	0	Tr	5	0	0	0	0	0	0	-	1	1	1	1	1	1
1723	1	1	0.5	Tr	Tr	0	Tr	0	0	0	0	0	2	1Mn ep, 1zirk	12	14	11	13	10	12
1724	0	0.5	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1725	1	0.5	0	Tr	0	0	2	0	0	0	0	0	0	-	1	1	1	1	2	2
1726	0	Tr	0	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1728	0	Tr	0	Tr	0	0	5	1	2	0	0	0	1	-	1	2	1	2	2	3
1729	0	Tr	0	Tr	Tr	0	2	0	0	0	0	0	0	-	1	1	1	1	1	1
1730	0	1	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1731	0	0	0.5	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1732	0	2	0	0	0	0	20	0	0	0	0	0	0	-	0	0	0	0	0	0
1733	0	1	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1734	0	Tr	0	Tr	0	0	3	0	0	0	1	0	3	-	4	4	3	3	1	1
1735	0	0	0	0	0	0	2	0	0	0	0	0	7	-	7	6	7	6	0	0
1736	2	Tr	0	Tr	0	0	2	0	0	0	0	0	0	1 perovskite	4	5	4	5	6	7
1737	0	0	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1738	0	Tr	Tr	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1739	0	Tr	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1740	2	1	Tr	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	2	1

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1741	19.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1742	17.50	Tr	1	1	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1743	14.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1744	15.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1745	16.50	Tr	1	1	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
1746	14.00	Tr	1	1	0	0	0	0	0	0	0	Tr	0	0	0	0	0	Tr	1	0
1747	13.30	Tr	2	2	Tr	1	1	0	0	0	0	Tr	15	Tr	3	0	0	0	0	0
1748	14.50	0	0	0	0	0	0	Tr	1	0	0	Tr	75	Tr	0	0	0	0	0	0
1749	14.40	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
1751	15.80	0	0	0	Tr	2	2	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1752	17.80	0	0	0	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	0	0	0
1753	15.70	0	0	0	Tr	1	1	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1754	19.00	0	0	0	0	0	0	0	0	0	0	3	200	Tr	0	0	0	0	0	0
1755	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1756	19.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1758	15.60	0	0	0	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	0	0	0
1759	15.30	0	0	0	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	0	0	0
1760	18.30	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1761	15.80	0	0	0	Tr	1	1	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
1762	16.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1763	15.60	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	1	0	0	0	0	0
1764	17.50	0	0	0	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	0	0	0
1765	17.40	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	0	0	0	0	0	0
1766	16.90	0	0	0	0	0	0	0	0	0	0	Tr	5	Tr	0	0	0	0	0	0
1767	17.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1768	20.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1770	15.90	0	0	0	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	0	0	0
1771	19.30	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1772	17.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1773	15.10	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1741	0	Tr	0	Tr	0	Tr	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1742	0	Tr	Tr	Tr	0	Tr	15	0	0	0	0	0	0	1Cr gross gnt	1	1	1	1	1	1
1743	0	Tr	Tr	Tr	0	0	35	0	0	0	0	0	0	-	0	0	0	0	0	0
1744	2	1	Tr	Tr	0	0	30	0	0	0	0	0	1	-	1	1	1	1	2	2
1745	1	1	Tr	Tr	0	0	20	0	0	0	0	1	2	-	4	4	4	4	2	2
1746	1	Tr	Tr	Tr	0	0	2	0	0	0	0	0	1	-	2	2	2	2	2	2
1747	5	Tr	Tr	Tr	0	0	3	0	0	0	0	0	0	-	2	2	2	2	7	8
1748	0	Tr	Tr	Tr	0	0	1	0	0	0	1	0	0	-	1	1	0	0	1	1
1749	0	0	0	1	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1751	26	Tr	0	Tr	0	0	15	0	0	0	0	0	0	-	0	0	0	0	26	25
1752	0	Tr	0	0	0	0	3	0	0	0	0	0	1	-	1	1	1	1	0	0
1753	5	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	5	5
1754	0	0.5	0	Tr	0	0	7	0	0	0	1	0	0	-	1	1	0	0	1	1
1755	16	Tr	0	Tr	0	0	15	0	0	0	0	0	0	1 synchysite	0	0	0	0	16	14
1756	0	1	0	Tr	0	0	20	0	0	0	0	0	4	-	4	3	4	3	0	0
1758	7	Tr	0	1	0	0	10	0	0	0	0	0	1	-	1	1	1	1	7	7
1759	11	Tr	Tr	2	0	0	20	0	0	0	1	0	0	-	1	1	0	0	12	12
1760	1	Tr	Tr	Tr	0	0	20	0	0	0	0	0	1	-	1	1	1	1	1	1
1761	0	Tr	0	2	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
1762	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1763	3	Tr	Tr	2	0	Tr	4	0	0	0	1	2	0	1 uvarovite	1	1	2	2	4	4
1764	7	Tr	0	3	0	0	20	0	0	0	0	0	1	-	1	1	1	1	7	6
1765	6	Tr	0	6	0	0	10	0	0	0	1	0	0	-	1	1	0	0	7	6
1766	0	1	0	Tr	Tr	1	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1767	6	Tr	0	4	Tr	0	10	0	0	0	0	0	1	-	1	1	1	1	6	5
1768	0	1	0	Tr	0	0	10	0	0	0	0	0	3	-	3	2	3	2	0	0
1770	1	0.5	0	2	0	Tr	5	0	0	0	0	0	1	-	1	1	1	1	1	1
1771	0	Tr	0	Tr	0	0	8	0	0	0	0	0	1	-	1	1	1	1	0	0
1772	0	Tr	Tr	Tr	0	0	60	0	0	0	0	0	0	-	0	0	0	0	0	0
1773	5	Tr	0	3	0	0	3	0	0	0	1	0	0	-	1	1	0	0	6	6

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1774	15.60	0	0	0	0	0	0	0	0	0	0	Tr	5	1	2	0	0	0	0	0
1776	12.10	Tr	2	2	Tr	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0
1777	9.90	0	2	2	0	0	0	Tr	1	0	0	10	800	Tr	0	0	0	0	0	0
1778	18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0
1779	19.20	0	0	0	0	0	0	0	0	0	0	Tr	4	Tr	0	0	0	0	0	0
1780	13.60	Tr	2	2	0	0	0	0	0	0	0	Tr	30	Tr	1	1	1	Tr	1	3
1781	16.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1782	10.20	Tr	2	2	0	0	0	0	0	0	0	Tr	40	Tr	1	0	0	Tr	1	0
1783	8.70	Tr	2	1	0	0	0	0	0	0	0	3	400	Tr	0	0	0	0	0	0
1784	18.00	Tr	1	1	0	0	0	0	0	0	0	Tr	40	Tr	0	0	0	0	0	0
1785	13.60	Tr	9	9	0	0	1	0	0	0	0	3	2000	Tr	0	1	1	Tr	0	1
1786	16.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1787	14.60	0	0	0	Tr	1	1	0	0	0	0	Tr	10	Tr	0	0	0	Tr	1	0
1788	18.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1789	15.90	Tr	2	2	0	0	0	0	0	0	0	Tr	5	0	0	0	0	0	0	0
1790	14.20	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1792	18.50	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
1793	17.40	0	0	0	0	0	0	0	0	0	0	0.5	1	0	0	0	0	0	0	0
1794	16.60	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
1795	15.20	0	0	0	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
1796	14.30	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1797	15.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1798	12.50	Tr	2	2	Tr	1	1	0	0	0	0	50	100000	Tr	1	0	0	0	0	0
1799	17.40	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
1800	11.60	Tr	3	3	0	0	0	Tr	1	0	0	0.5	300	Tr	4	0	0	Tr	4	0
1801	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1802	15.90	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1803	18.70	0	0	0	0	0	0	0	0	0	0	3	5	1	0	0	0	0	0	0
1804	19.50	0	0	0	0	0	0	0	0	0	0	1	2	Tr	0	0	0	0	0	0
1805	15.00	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1774	5	1	Tr	1	Tr	Tr	7	0	0	0	4	0	0	1topaz,1paris	4	4	0	0	9	9
1776	6	Tr	0	1	0	1	5	0	0	0	0	3	0	-	3	4	5	6	8	10
1777	5	0.5	0	1	0	0	1	0	0	0	0	0	0	-	2	3	2	3	7	11
1778	2	Tr	0	Tr	0	0	1	0.	0	0	0	0	0	1Cr gross gnt	1	1	0	0	2	2
1779	0	Tr	0	Tr	0	Tr	5	0	0	0	0	0	2	1Mn epidote	2	2	2	2	0	0
1780	1	1	0	2	0	0	3	0	0	0	0	0	1	-	8	9	3	3	3	3
1781	1	Tr	0	1	0	Tr	7	0	0	0	0	0	0	-	0	0	0	0	1	1
1782	1	Tr	Tr	Tr	Tr	0	2	0	0	0	0	0	0	1 Ilmenorutile	3	4	2	3	3	4
1783	0	Tr	0	0.5	Tr	0	5	0	0	0	0	0	0	-	2	3	2	3	2	3
1784	1	Tr	0	Tr	0	0	4	0	0	0	0	0	1	-	2	2	2	2	2	2
1785	0	Tr	0	Tr	Tr	0	2	0	0	0	0	0	0	-	11	12	9	10	9	10
1786	1	Tr	0	Tr	0	0	35	0	0	0	0	0	0	-	0	0	0	0	1	1
1787	1	Tr	0	0.5	0	0	3	1	1	0	0	0	3	-	4	4	3	3	2	2
1788	0	Tr	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1789	4	Tr	Tr	Tr	Tr	0	2	0	0	0	0	1	0	-	2	2	3	3	6	6
1790	0	Tr	Tr	Tr	0	0	10	0	0	0	0	2	5	-	5	5	7	7	0	0
1792	0	Tr	Tr	Tr	Tr	0	50	0	0	0	1	0	0	-	1	1	0	0	1	1
1793	0	0	0	0	0	0	0.5	0	0	0	0	0	14	-	14	12	14	12	0	0
1794	1	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	1	1
1795	1	Tr	Tr	Tr	Tr	0	4	0	0	0	0	0	0	-	0	0	0	0	1	1
1796	0	Tr	0	Tr	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1797	1	Tr	0	Tr	0	0	15	0	0	0	0	0	0	1Mn epidote	0	0	0	0	1	1
1798	1	Tr	0	Tr	0	0	Tr	2	4	0	0	0	0	-	2	2	2	2	7	8
1799	0	0.5	Tr	Tr	Tr	0	7	0	0	0	0	1	0	-	0	0	1	1	0	0
1800	3	Tr	Tr	Tr	Tr	0	Tr	4	6	0	0	0	0	2topaz,3paris	7	9	3	4	12	15
1801	0	0	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1802	0	0	0	0	0	0	30	0	0	0	0	0	1	-	1	1	1	1	0	0
1803	0	0	0	0	0	0	2	0	0	0	1	0	0	-	1	1	0	0	1	1
1804	0	0	Tr	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1805	0	Tr	Tr	Tr	Tr	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1806	15.80	0	0	0	0	0	0	0	0	0	0	Tr	11	0	0	0	0	0	0	0
1807	11.50	Tr	2	2	0	0	0	0	0	0	0	Tr	15	0	0	0	0	0	0	0
1808	13.60	0	0	0	0	0	0	0	0	0	0	Tr	15	0	0	0	0	0	0	0
1809	14.50	0	0	0	0	0	0	Tr	3	0	0	Tr	200	0	0	0	0	Tr	1	2
1810	12.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1811	15.10	Tr	1	1	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1812	8.40	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
1813	11.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	1	0
1814	14.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1815	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1816	12.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1817	13.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1818	15.90	Tr	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1819	16.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1820	12.40	Tr	7	7	Tr	1	1	Tr	5	0	0	3	2000	Tr	2	0	0	Tr	1	3
1821	11.50	Tr	3	3	0	0	0	Tr	3	0	0	25	18000	Tr	1	0	0	0	0	0
1822	15.80	0	0	0	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	Tr	0	1
1823	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1824	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1825	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1826	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1827	14.30	0	0	0	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	Tr	1	1
1828	14.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1829	12.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1830	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
1831	12.30	0	0	0	0	0	0	0	0	0	0	10	5000	Tr	0	0	0	0	0	0
1832	14.80	0	0	0	0	0	0	0	0	0	0	Tr	6	Tr	0	0	0	0	0	0
1833	13.50	0	0	0	Tr	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0
1834	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1835	10.40	Tr	5	5	Tr	3	3	0	0	0	0	Tr	4	Tr	4	0	0	Tr	1	1

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1806	0	0.5	0	0.5	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
1807	1	1	0	Tr	0	0	1	1	1	0	0	0	0	-	2	3	2	3	4	5
1808	0	Tr	0	Tr	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1809	4	1	0	2	0	0	0	0	0	0	0	0	0	-	3	3	0	0	4	4
1810	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1811	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	2	-	3	3	3	3	1	1
1812	0	Tr	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1813	0	Tr	0	Tr	0	0	0.5	0	0	0	0	0	0	1 Mn epidote	1	1	0	0	0	0
1814	0	0	0	Tr	0	0	2	0	0	0	0	0	5	-	5	5	5	5	0	0
1815	0	0	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1816	0	1	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1817	0	Tr	0	Tr	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1818	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	1	1	1	1	1	1
1819	0	Tr	0	Tr	0	0	2	0	0	0	0	0	4	-	4	4	4	4	0	0
1820	4	Tr	Tr	Tr	Tr	0	1	0	0	0	0	0	0	1 sphalerite	11	13	7	8	11	13
1821	0	Tr	0	Tr	Tr	0	2	1	2	0	0	1	6	1sph,1temolite	9	12	10	13	5	6
1822	0	Tr	Tr	Tr	0	0	10	0	0	0	0	0	0	1Mn ep,1 LC	1	1	0	0	0	0
1823	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1824	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1825	0	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1826	0	0	0	0	0	0	4	0	0	0	0	0	0	-	0	0	0	0	0	0
1827	1	Tr	0	Tr	Tr	0	Tr	0	0	0	0	0	0	1 Zirkelite	2	2	0	0	1	1
1828	0	Tr	0	0	0	0	0.5	0	0	0	0	0	0	-	0	0	0	0	0	0
1829	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1830	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1831	0	Tr	0	Tr	0	0	0.5	0	0	0	0	0	0	1 Cr gross gnt	0	0	0	0	0	0
1832	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1833	0	Tr	0	Tr	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
1834	0	Tr	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1835	1	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	1 Cr gross gnt	7	10	5	7	6	9

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1836	9.20	Tr	3	3	Tr	5	6	0	0	0	0	Tr	40	Tr	1	0	0	Tr	1	0
1837	11.70	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1838	8.80	Tr	1	1	0	0	0	0	0	0	0	Tr	5	3	1	0	0	0	0	0
1839	8.40	Tr	1	1	Tr	1	1	0	0	0	0	Tr	5	0	1	0	0	0	0	0
1841	12.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1842	12.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1843	9.90	Tr	1	1	0	0	0	0	0	0	0	Tr	2	Tr	1	0	0	0	0	0
1844	11.20	Tr	1	1	Tr	1	1	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
1845	9.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1846	12.10	Tr	2	2	0	0	0	0	0	0	0	0	0	Tr	2	0	0	Tr	1	0
1847	13.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	1	0
1848	9.70	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
1849	15.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1850	13.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1851	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1852	17.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1853	16.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1854	19.90	0	0	0	Tr	1	1	0	0	0	0	4	500	Tr	0	0	0	0	0	0
1855	17.50	0	0	0	0	0	0	0	0	0	0	3	1500	Tr	0	1	1	0	0	0
1856	14.40	Tr	1	1	Tr	1	1	0	0	0	0	Tr	50	0	4	1	1	Tr	0	1
1857	17.50	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
1858	15.60	0	0	0	0	0	0	0	0	0	0	Tr	7	Tr	0	0	0	0	0	0
1859	15.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	1	0
1860	15.80	0	0	0	0	0	0	0	0	0	0	15	600	Tr	0	0	0	0	0	0
1861	13.20	Tr	6	6	Tr	1	1	0	0	0	0	1	0	0	2	0	0	Tr	2	0
1862	14.30	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
1863	13.40	Tr	2	2	0	0	0	0	0	0	0	0.5	75	Tr	0	0	0	0	0	0
1864	12.40	Tr	2	2	0	0	0	0	0	0	0	Tr	15	Tr	0	0	0	0	0	0
1865	16.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1866	9.00	Tr	1	1	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1836	1	Tr	Tr	Tr	Tr	0	Tr	0	0	0	0	0	2	1 perovskite	6	10	5	8	4	7
1837	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
1838	0	Tr	0	0.5	0	0	Tr	1	1	0	0	0	1	-	2	3	2	3	2	3
1839	0	Tr	0	0	0	0	0	1	1	0	0	0	2	-	3	5	3	5	2	4
1841	0	Tr	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1842	0	Tr	0	0	0	0	1	0	0	0	0	0	1	1 Cr gross gnt	1	1	1	1	0	0
1843	1	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	1	2	1	2	2	3
1844	2	Tr	0	Tr	0	0	Tr	0	0	0	0	2	3	-	4	5	6	8	3	4
1845	0	Tr	0	0	0	0	Tr	2	3	0	3	0	0	-	4	7	0	0	6	9
1846	0	Tr	0	Tr	0	0	Tr	1	2	0	0	1	0	1 topaz	3	4	3	4	4	5
1847	1	Tr	0	Tr	0	0	4	0	0	0	0	0	0	1 Mn epidote	0	0	0	0	1	1
1848	0	Tr	Tr	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1849	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1850	0	Tr	0	0	0	0	Tr	0	0	0	0	0	4	-	4	4	4	4	0	0
1851	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
1852	0	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1853	3	Tr	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	3	3
1854	2	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	2	2
1855	40	Tr	0	Tr	0	0	Tr	0	0	0	0	0	1	-	2	2	1	1	40	34
1856	4	Tr	0	Tr	0	0	Tr	0	0	0	0	0	1	1Mn ep,1Cr g.g	4	4	2	2	5	5
1857	0	0	0	0	0	0	4	0	0	0	0	0	0	-	0	0	0	0	0	0
1858	0	1	Tr	Tr	Tr	0	10	0	0	0	0	0	2	-	2	2	2	2	0	0
1859	4	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	1	1	0	0	4	4
1860	0	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1861	0	1	Tr	2	Tr	0	5	1	2	0	1	0	0	-	9	10	6	7	9	10
1862	0	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1863	0	Tr	0	Tr	0	0	2	0	0	0	1	0	0	-	3	3	2	2	3	3
1864	0	Tr	0	Tr	0	0	10	0	0	0	0	0	0	-	2	2	2	2	2	2
1865	0	Tr	Tr	Tr	Tr	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1866	0	Tr	0	Tr	0	0	1	0	0	0	0	0	1	-	2	3	2	3	1	2

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1867	12.40	0	0	0	0	0	0	0	0	0	0	Tr	4	Tr	0	0	0	0	0	0
1868	11.00	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
1869	16.30	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
1871	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1872	13.20	0	0	0	0	0	0	0	0	0	0	5	300	Tr	0	0	0	0	0	0
1873	11.80	0	0	0	0	0	0	0	0	0	0	1	100	1	0	0	0	0	0	0
1874	11.90	0	1	1	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
1876	11.90	0	0	0	0	0	0	0	0	0	0	0	0.5	0	1	0	0	0	0	0
1877	14.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	3	1
1878	17.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1879	16.20	Tr	1	1	0	0	0	0	0	0	0	Tr	1	0	4	0	0	0	0	0
1880	11.70	Tr	1	1	Tr	1	1	0	0	0	0	0.5	150	Tr	0	0	0	Tr	1	1
1881	11.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1882	11.50	0	0	0	0	0	0	0	0	0	0	Tr	50	0	0	0	0	0	0	0
1883	9.50	Tr	15	15	Tr	4	4	0	0	0	0	60	10000	Tr	0	0	0	0	0	0
1884	10.30	Tr	3	3	Tr	1	1	0	0	0	0	Tr	8	Tr	2	0	0	0	0	0
1885	7.70	Tr	2	2	Tr	4	4	0	0	0	0	Tr	50	Tr	0	0	0	0	0	0
1886	12.50	0	0	0	Tr	4	4	0	0	0	0	Tr	5	0	0	1	1	0	0	0
1887	15.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1889	8.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1890	11.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1892	12.30	0	1	1	Tr	1	3	0	0	0	0	1	400	Tr	2	1	1	0	0	0
1893	9.80	Tr	1	1	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
1894	13.90	Tr	1	1	0	0	0	0	0	0	0	Tr	5	0	0	0	0	0	0	0
1895	7.10	Tr	1	1	0	0	0	0	0	0	0	0.5	100	Tr	1	0	0	0	0	0
1896	14.90	0	0	0	0	0	0	0	0	0	0	Tr	50	Tr	1	0	0	0	0	0
1899	17.30	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
1901	14.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1904	16.00	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1905	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1867	1	Tr	0	Tr	0	0	5	0	0	0	0	0	2	-	2	2	2	2	1	1
1868	1	Tr	0	Tr	0	0	3	0	0	0	0	0	2	-	2	3	2	3	1	1
1869	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1871	0	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1872	0	Tr	0	Tr	Tr	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1873	1	Tr	0	Tr	Tr	0	10	0	0	0	1	0	5	-	6	8	5	6	2	3
1874	1	2	0	Tr	0	0	8	0	0	0	0	0	0	-	1	1	1	1	2	3
1876	0	2	Tr	Tr	Tr	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
1877	2	1	Tr	Tr	0	0	3	0	0	0	0	0	2	-	6	6	2	2	2	2
1878	0	0	0	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1879	2	1	Tr	3	Tr	0	10	0	0	0	0	0	0	-	1	1	1	1	3	3
1880	0	2	0	Tr	0	Tr	8	0	0	0	0	0	2	-	5	6	3	4	1	1
1881	0	1	0	Tr	Tr	0	15	0	0	0	0	0	0	-	0	0	0	0	0	0
1882	0	Tr	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1883	0	0.5	Tr	Tr	Tr	0	Tr	1	1	0	0	0	0	-	15	24	15	24	16	25
1884	1	Tr	Tr	Tr	Tr	0	Tr	0	0	0	0	0	0	-	3	4	3	4	4	6
1885	3	1	Tr	0.5	0	0	5	0	0	0	0	0	0	-	2	4	2	4	5	10
1886	0	3	Tr	Tr	0	0	4	0	0	0	0	0	0	-	1	1	0	0	0	0
1887	0	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1889	0	2	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1890	0	1	0	Tr	0	0	25	0	0	0	0	0	2	-	2	3	2	3	0	0
1892	0	Tr	0	Tr	Tr	0	3	1	1	0	0	0	0	-	2	2	1	1	2	3
1893	5	Tr	Tr	Tr	Tr	0	Tr	0	0	0	0	0	0	-	1	2	1	2	6	9
1894	0	1	Tr	Tr	0	0	2	0	0	0	0	0	0	-	1	1	1	1	1	1
1895	0	Tr	Tr	Tr	Tr	0	1	1	1	0	0	0	0	-	1	2	1	2	2	4
1896	1	Tr	Tr	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	1	1
1899	3	Tr	0	Tr	0	0	30	0	0	0	0	0	0	-	0	0	0	0	3	3
1901	0	0	0	0	0	0	30	0	0	0	0	0	0	-	0	0	0	0	0	0
1904	1	0	Tr	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	1	1
1905	0	Tr	Tr	Tr	Tr	Tr	3	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
1906	15.30	0	0	0	0	0	0	0	0	0	0	Tr	2	0	1	0	0	0	0	0
1907	17.70	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
1908	15.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1919	14.30	0	0	0	0	0	0	0	0	0	0	Tr	5	0	0	0	0	0	0	0
1920	13.60	Tr	1	1	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0
1921	9.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	13.00	0	0	0	0	0	0	0	0	Tr	3	0	0	Tr	0	0	0	0	0	0
1946	8.90	Tr	1	1	0	0	0	0	0	0	0	0	0	Tr	0	1	2	0	0	0
1947	11.50	0	0	0	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0
1948	9.70	0	0	0	0	0	0	0	0	0	0	Tr	1	5	0	0	0	0	0	0
1949	10.30	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	1	1	0	0	0
1950	12.30	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
1951	15.50	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1952	16.00	0	0	0	0	0	0	0	0	0	0	Tr	5	1	0	0	0	0	0	0
1953	11.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	11.80	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0
1955	11.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	15.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
1960	12.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	12.80	0	0	0	0	0	0	0	0	0	0	4	50	0	0	0	0	0	0	0
1972	9.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	11.80	Tr	3	3	0	0	0	0	0	0	0	6	1800	Tr	0	0	0	0	0	0
2001	10.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2002	10.80	Tr	1	1	0	0	0	0	0	0	0	Tr	30	Tr	0	0	0	0	0	0
2005	15.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2006	8.90	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
2007	12.90	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2008	10.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2009	15.10	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
1906	1	0	0	0	0	0	0	0	0	0	8	1	0	-	8	8	1	1	9	9
1907	5	Tr	0	Tr	Tr	0	Tr	0	0	0	0	0	0	-	0	0	0	0	5	4
1908	0	Tr	Tr	1	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
1919	0	Tr	Tr	0	Tr	0	5	0	0	0	1	0	0	-	1	1	0	0	1	1
1920	0	0	0	0	0	0	5	0	0	0	0	0	0	-	1	1	1	1	1	1
1921	0	0	0	0	0	0	30	0	0	0	0	0	0	-	0	0	0	0	0	0
1945	1	1	Tr	Tr	0	0	7	0	0	0	0	0	0	-	0	0	0	0	1	1
1946	0	Tr	0	Tr	0	0	Tr	4	6	0	2	0	1	-	5	8	2	3	9	16
1947	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1948	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
1949	0	Tr	Tr	1	0	0	2	0	0	0	0	0	0	-	1	1	0	0	0	0
1950	0	Tr	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1951	0	0	Tr	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
1952	0	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1953	0	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
1954	1	Tr	Tr	Tr	0	0	30	0	0	0	0	0	0	-	0	0	0	0	1	1
1955	0	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
1956	0	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1959	2	Tr	0	Tr	0	0	8	0	0	0	0	0	0	-	0	0	0	0	2	2
1960	0	0	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1971	0	Tr	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
1972	0	0	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
1973	0	0.5	Tr	Tr	0	0	Tr	1	3	0	3	0	0	-	6	8	3	4	9	11
2001	4	Tr	0	Tr	Tr	0	7	0	0	0	0	0	0	-	0	0	0	0	4	6
2002	2	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	1	1	1	1	3	4
2005	0	0.5	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2006	0	1	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
2007	0	0.5	0	0.5	0	0	15	0	0	0	0	0	0	-	0	0	0	0	0	0
2008	0	Tr	Tr	Tr	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0
2009	2	Tr	0	Tr	0	0	7	0	0	0	0	0	0	-	0	0	0	0	2	2

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
2010	14.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2011	11.30	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
2012	11.50	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2013	15.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2014	12.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2015	15.30	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2016	9.80	Tr	1	1	0	0	0	0	0	0	0	Tr	25	Ttr	0	0	0	0	0	0
2017	12.00	Tr	2	2	0	0	0	0	0	0	0	Tr	15	Tr	2	0	0	0	0	0
2018	11.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2019	14.80	0	0	0	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
2020	13.30	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0
2022	11.00	Tr	4	4	0	0	0	0	0	0	0	0.5	200	0	0	1	1	0	0	0
2023	15.30	0	0	0	0	0	0	0	0	0	0	5	250	Tr	0	0	0	0	0	0
2024	13.50	0	0	0	0	0	0	0	0	0	0	6	3	0	0	0	0	0	0	0
2025	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2026	13.10	0	0	0	0	0	0	0	0	0	0	Tr	3	Tr	0	0	0	0	0	0
2027	15.20	0	0	0	0	0	0	0	0	0	0	4	500	Tr	0	0	0	Tr	0	1
2028	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2029	8.90	0	0	0	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
2030	10.60	Tr	2	2	0	0	0	0	0	0	0	2	500	Tr	0	0	0	Tr	0	1
2031	14.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2032	14.00	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
2033	13.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2034	11.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2035	11.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2036	10.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2038	14.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2040	14.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2042	13.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2075	10.90	0	0	0	0	0	0	0	0	0	0	1	50	0	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
2010	0	Tr	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2011	0	Tr	0	Tr	0	0	5	0	0	0	1	0	0	-	1	1	0	0	1	1
2012	0	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
2013	0	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2014	0	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
2015	0	Tr	Tr	0	Tr	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
2016	12	Tr	0	Tr	Tr	0	Tr	0	0	0	0	0	0	-	1	2	1	2	13	20
2017	3	Tr	0	Tr	0	0	Tr	0	0	0	0	0	1	1 Mn epidote	3	4	3	4	5	6
2018	0	0	0	0	Tr	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2022	0	Tr	0	Tr	0	0	Tr	1	2	0	0	0	0	-	5	7	4	5	6	8
2023	0	Tr	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
2024	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2025	0	Tr	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2026	0	0	Tr	Tr	0	Tr	4	0	0	0	0	0	0	-	0	0	0	0	0	0
2027	13	Tr	0	Tr	0	0	3	0	0	0	0	0	0	-	1	1	0	0	13	13
2028	1	Tr	Tr	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	1	1
2029	4	Tr	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	4	7
2030	4	Tr	Tr	Tr	0	0	4	0	0	0	0	0	0	1 Mn epidote	3	4	2	3	6	8
2031	0	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
2032	0	Tr	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2033	0	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2034	0	Tr	0	0	0	0	1	0	0	0	0	0	0	-	0	0	0	0	0	0
2035	0	Tr	Tr	2	0	0	15	0	0	0	0	0	0	-	0	0	0	0	0	0
2036	0	0	Tr	Tr	0	0	5	0	0	0	0	0	1	-	1	1	1	1	0	0
2038	0	0	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2040	0	0	0	Tr	0	0	15	0	0	0	0	0	1	-	1	1	1	1	0	0
2042	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2075	0	0	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
2076	15.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Tr	1	0
2077	14.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2078	15.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2079	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2080	12.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2091	16.20	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2092	15.40	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2093	11.70	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2102	11.00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
2150	13.10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2151	13.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2152	16.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2244	9.70	0	0	0	0	0	0	0	0	0	0	Tr	20	0	1	0	0	0	0	0
2253	10.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2254	12.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2255	11.30	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2256	14.60	Tr	1	1	0	0	0	0	0	0	0	Tr	1	0	0	1	1	0	0	0
2257	11.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2258	10.80	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2259	5.20	0	0	0	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2260	9.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2261	12.00	0	0	0	0	0	0	0	0	0	0	Tr	2	Tr	0	0	0	0	0	0
2262	11.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2263	16.30	Tr	1	1	0	0	0	0	0	0	0	Tr	18	0	0	0	0	0	0	0
2268	15.20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2269	12.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2284	13.30	Tr	3	3	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
2285	15.10	Tr	2	2	0	0	0	0	0	0	0	Tr	125	0	0	0	0	0	0	0
2286	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2287	14.40	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
2076	1	Tr	Tr	Tr	Tr	0	Tr	0	0	0	0	0	0	-	1	1	0	0	1	1
2077	0	Tr	Tr	Tr	0	0	12	0	0	0	0	0	0	-	0	0	0	0	0	0
2078	8	0	Tr	Tr	0	0	5	0	0	0	0	0	1	-	1	1	1	1	8	8
2079	0	0	Tr	Tr	0	0	8	0	0	0	0	0	1	-	1	1	1	1	0	0
2080	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2091	0	0	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
2092	0	Tr	0	0	Tr	0	1	0	0	0	0	0	1	-	1	1	1	1	0	0
2093	4	Tr	Tr	Tr	0	0	20	0	0	0	0	0	0	-	0	0	0	0	4	5
2102	0	2	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2150	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2151	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2152	0	Tr	0	0	0	0	7	0	0	0	0	0	0	-	0	0	0	0	0	0
2244	2	Tr	Tr	Tr	0	0	0	3	29	0	3	0	0	-	3	5	0	0	34	53
2253	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2254	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2255	0	Tr	0	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2256	3	Tr	0	Tr	0	0	5	0	0	0	1	0	0	-	3	3	1	1	5	5
2257	0	0	0	Tr	0	0	4	0	0	0	0	0	0	-	0	0	0	0	0	0
2258	1	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	1	1
2259	1	0	0	Tr	0	Tr	7	0	0	0	0	0	0	-	0	0	0	0	1	3
2260	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2261	1	1	0	Tr	0	0.5	5	0	0	0	0	0	0	-	0	0	0	0	1	1
2262	0	0	0	Tr	Tr	0	5	0	0	0	0	0	0	1 Mn epidote	0	0	0	0	0	0
2263	0	Tr	0	0	0	0	2	0	0	0	0	0	0	-	1	1	1	1	1	1
2268	1	Tr	0	Tr	0	0	0.5	0	0	0	0	0	0	-	0	0	0	0	1	1
2269	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2284	0	Tr	0	Tr	0	0	1	3	6	0	0	0	0	1 loellingite	3	3	3	3	9	10
2285	0	Tr	0	1	0	0	Tr	0	0	0	0	0	0	-	2	2	2	2	2	2
2286	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2287	0	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
2288	15.00	0	0	0	0	0	0	Tr	1	0	0	5	150	0	0	0	0	0	0	0
2289	13.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2290	12.90	0	0	0	Tr	3	0	0	0	0	0	1	0	Tr	0	0	0	0	0	0
2307	11.50	0	0	0	0	0	0	0	0	0	0	Tr	50	Tr	1	0	0	Tr	1	0
2308	14.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2309	14.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2310	15.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2311	9.30	0	0	0	0	0	0	0	0	0	0	Tr	30	0	1	0	0	0	0	0
2312	13.10	Tr	2	2	0	0	0	0	0	0	0	0	0	0	3	0	0	Tr	0	1
2313	13.60	0	0	0	Tr	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2314	17.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2315	16.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2316	16.50	0	0	0	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0
2317	15.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2318	11.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2319	12.90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2320	11.20	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	1	0
2321	18.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2322	13.50	0	0	0	0	0	0	0	0	0	0	Tr	3	0	0	0	0	0	0	0
2323	13.20	0	0	0	0	0	0	0	0	0	0	Tr	30	0	0	1	1	0	0	0
2324	13.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2325	14.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2326	13.40	Tr	2	2	0	0	0	0	0	0	0	8	800	0	1	0	0	0	0	0
2327	16.30	0	0	0	0	0	0	0	0	0	0	Tr	70	Tr	0	0	0	Tr	1	0
2328	14.70	Tr	1	1	0	0	0	0	0	0	0	Tr	10	0	0	0	0	0	0	0
2329	8.80	Tr	7	7	Tr	1	1	0	0	0	0	1	350	0	3	3	5	0	0	0
2330	9.30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2331	14.80	Tr	1	1	0	0	0	0	0	0	0	Tr	10	Tr	0	0	0	0	0	0
2332	11.80	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2333	14.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		**Ni-Cu massive sulphide** (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
2288	0	0	0	Tr	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
2289	1	0	0	0	0	0	2	0	0	0	0	0	2	-	2	2	2	2	1	1
2290	5	Tr	0	0	0	0	1	0	0	0	0	0	2	-	2	2	2	2	5	6
2307	2	Tr	Tr	0	Tr	0	5	4	5	0	0	0	0	-	1	1	0	0	7	10
2308	0	Tr	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
2309	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2310	1	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	1	1
2311	3	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	3	5
2312	2	Tr	Tr	2	Tr	0	Tr	5	135	0	0	0	0	-	3	3	2	2	139	159
2313	2	Tr	0	Tr	0	0	0.5	5	10	0	0	0	0	-	0	0	0	0	12	13
2314	0	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2315	4	Tr	0	Tr	0	0	Tr	3	6	0	0	0	0	-	0	0	0	0	10	9
2316	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2317	1	0	0	0	0	0	4	0	0	0	0	0	0	-	0	0	0	0	1	1
2318	1	Tr	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	1	1
2319	1	0	0	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	1	1
2320	2	0	0	Tr	0	0	5	0	0	0	0	0	0	-	1	1	0	0	2	3
2321	0	0	0	0	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
2322	1	0	Tr	0	Tr	0	2	0	0	0	0	0	0	-	0	0	0	0	1	1
2323	3	Tr	0	Tr	Tr	0	Tr	0	0	0	1	0	0	-	2	2	0	0	4	5
2324	3	Tr	0	Tr	0	0	1	0	0	0	0	0	0	-	0	0	0	0	3	3
2325	0	Tr	0	0	0	0	Tr	0	0	0	0	0	1	-	1	1	1	1	0	0
2326	0	Tr	0	Tr	0	0	2	0	0	0	1	0	0	-	3	3	2	2	3	3
2327	1	0.5	Tr	0.5	0	0	4	0	0	0	0	0	2	1 Cr gross gnt	3	3	2	2	1	1
2328	1	Tr	Tr	Tr	0	0	5	0	0	0	0	0	0	-	1	1	1	1	2	2
2329	4	Tr	0	1	0	0	2	0	0	0	0	0	0	-	10	17	7	12	11	19
2330	0	Tr	0	Tr	0	0	5	0	0	0	0	0	0	-	0	0	0	0	0	0
2331	1	Tr	0	Tr	Tr	0	5	0	0	0	1	0	0	-	2	2	1	1	3	3
2332	0	Tr	Tr	Tr	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2333	0	0.5	0	1	0	0	8	0	0	0	0	0	0	-	0	0	0	0	0	0

Sample Number	Table Feed	Chalcopyrite			Molybdenite			Arsenopyrite		Pyrrhotite		Pyrite		Gth	Spinels			Corundum		
00-KAP	(Kg)	%	# est. grains	Picked grains	%	# est. grains	Picked grains	%	#grains	%	#grains	%	#grains	%	Other Spinel #grains	Gahnite MMSIM #grains	Gahnite MMSIM #grains	%	Corundum and Ruby	sapphirine/ sapphire grains
																R	N			
2338	18.50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2339	12.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2340	16.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2341	18.60	0	0	0	0	0	0	0	0	0	0	Tr	1	0	1	0	0	0	0	0
2342	14.60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2343	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2345	13.40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2346	10.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2347	12.80	0	0	0	0	0	0	0	0	0	0	Tr	20	0	0	0	0	0	0	0
2348	10.40	Tr	2	2	0	0	0	0	0	0	0	1	400	0	2	0	0	Tr	2	1
2358	11.50	Tr	2	2	0	0	0	0	0	0	0	Tr	1	0	0	0	0	0	0	0
2359	10.70	0	0	0	0	0	0	0	0	0	0	Tr	1	Tr	1	0	0	0	0	0
2361	12.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	Tr	1	0
2362	11.40	0	0	0	0	0	0	0	0	0	0	12	10000	Tr	0	5	7	0	0	0
2363	13.30	0	0	0	0	0	0	0	0	0	0	1	16	0	0	0	0	0	0	0
2405	11.20	Tr	10	10	Tr	17	28	0	0	0	0	50	25000	0	0	0	0	Tr	0	1
2409	14.70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2410	10.00	Tr	2	2	0	0	0	0	0	0	0	Tr	25	Tr	1	0	0	0	0	0
2411	14.60	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2412	15.50	0	0	0	0	0	0	0	0	0	0	Tr	2	0	0	0	0	0	0	0
2413	16.30	0	0	0	0	0	0	0	0	0	0	Tr	5	0	0	0	0	0	0	0
2751	10.30	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0
2752	14.00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2753	11.80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2754	12.10	0	0	0	0	0	0	0	0	0	0	0	0	Tr	0	0	0	0	0	0
2755	13.00	0	0	0	0	0	0	0	0	0	0	Tr	20	Tr	0	0	0	0	0	0
2756	8.50	Tr	1	1	Tr	1	1	0	0	0	0	0.5	150	0	1	0	0	0	0	0
Total			467	345		89	104		42		4		216972		96	70	88			

Sample Number	Cr-Diopside	Ky	Sil	St	Sps	Fay	Opx	Chromite		Bronzite/ Hyperstene	Red Rutile	Fo	Native Gold	Others (Carbonatite indicators)	Total MMSIMs					
00-KAP	(picked as KIM, is MMSIM)	%	%	%	%	%	%	# MMSIM grains (raw data)	Est. # of grains	# grains	# grains	# grains	# picked grains	# grains	VMS (corundum, gahnite, rutile, cpy, Au, Ky, Sil, St, Sps, Opx, loellingite)		SKARN (Fo, cpy, Au)		Ni-Cu massive sulphide (opx, low Cr-diop, chromite, rutile, cpy)	
														-	R	N	R	N	R	N
2338	0	Tr	Tr	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
2339	1	Tr	0	0	0	0	4	0	0	0	0	0	0	-	0	0	0	0	1	1
2340	0	0	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2341	2	Tr	Tr	Tr	0	0	3	0	0	0	0	0	1	1Cr aegirine	1	1	1	1	2	2
2342	0	0	0	Tr	0	0	2	0	0	0	0	0	0	-	0	0	0	0	0	0
2343	0	Tr	0	0	0	0	10	0	0	0	0	0	0	-	0	0	0	0	0	0
2345	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2346	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2347	2	0	0	0	0	0	2	0	0	0	0	0	0	-	0	0	0	0	2	2
2348	6	Tr	Tr	1	0	0	1	0	0	0	0	0	0	-	5	7	2	3	8	12
2358	7	Tr	Tr	Tr	0	0	2	5	0	0	0	0	0	-	2	3	2	3	9	12
2359	0	Tr	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2361	2	Tr	0	Tr	0	0	4	0	0	0	0	0	0	-	1	1	0	0	2	2
2362	6	Tr	0	Tr	0	0	4	0	0	0	0	0	0	-	5	7	0	0	6	8
2363	0	Tr	0	0	0	0	3	0	0	0	0	0	0	-	0	0	0	0	0	0
2405	1	Tr	0	Tr	0	0	Tr	3	8	0	1	0	0	-	12	16	10	13	20	26
2409	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0	0	0	0	0
2410	0	0	0	Tr	Tr	0	Tr	3	5	0	0	0	0	-	2	3	2	3	7	11
2411	0	0	Tr	0	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2412	1	Tr	Tr	Tr	0	0	4	0	0	0	0	0	0	-	0	0	0	0	1	1
2413	5	0	Tr	Tr	0	0	15	0	0	0	0	0	0	-	0	0	0	0	5	5
2751	0	Tr	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2752	0	Tr	0	Tr	0	0	2	0	0	0	0	0	2	-	2	2	2	2	0	0
2753	0	0	0	Tr	0	0	Tr	0	0	0	0	0	0	-	0	0	0	0	0	0
2754	1	0	0	Tr	Tr	0	2	0	0	0	0	0	0	-	0	0	0	0	1	1
2755	1	0	0	Tr	0	0	15	0	0	0	0	0	0	-	0	0	0	0	1	1
2756	7	Tr	Tr	Tr	Tr	0	8	0	0	0	0	0	4	-	5	9	5	9	8	14
Total	842							98	301	5	171	23	304		1095	1373	794	1024	1781	2217

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APPENDIX G : Number of Total, Reshaped, Modified and Pristine Gold Grains within Each Sample. Data is Presented as Raw Data and Normalized Data.

Summary of Abbreviations

Kg: Kilogram
R: Raw
N: Normalized

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1501	481993	5433667	Ottaway	10.90	9	12	8	11	1	1	0	0
1502	487016	5466548	Marven	9.20	2	3	2	3	0	0	0	0
1503	492894	5467499	Marven	21.80	0	0	0	0	0	0	0	0
1504	495139	5465807	Thorning	13.70	0	0	0	0	0	0	0	0
1505	498921	5464282	Thorning	8.60	2	3	1	2	1	2	0	0
1506	494795	5458329	Marven	13.80	0	0	0	0	0	0	0	0
1507	479510	5474975	Beniah	12.90	1	1	1	1	0	0	0	0
1508	479860	5475075	Beniah	10.40	0	0	0	0	0	0	0	0
1509	503955	5443538	Glackmeyer	11.30	0	0	0	0	0	0	0	0
1510	501626	5438445	Glackmeyer	10.80	2	3	2	3	0	0	0	0
1511	484228	5466514	Marven	8.40	0	0	0	0	0	0	0	0
1512	490160	5465875	Marven	14.20	1	1	1	1	0	0	0	0
1513	495860	5456325	Blount	13.40	2	2	2	2	0	0	0	0
1514	489692	5440202	Clute	18.20	9	7	9	7	0	0	0	0
1515	496215	5452546	Blount	11.90	1	1	1	1	0	0	0	0
1516	489935	5448375	Clute	13.00	2	2	2	2	0	0	0	0
1517	497293	5445903	Glackmeyer	11.50	1	1	1	1	0	0	0	0
1518	490406	5441593	Clute	14.00	0	0	0	0	0	0	0	0
1519	521165	5472865	Potter	16.90	0	0	0	0	0	0	0	0
1520	511387	5472049	Potter	16.30	0	0	0	0	0	0	0	0
1521	509031	5470892	Potter	17.10	0	0	0	0	0	0	0	0
1522	500447	5466538	Thorning	14.50	0	0	0	0	0	0	0	0
1525	489735	5440160	Clute	11.50	2	3	2	3	0	0	0	0
1526	480727	5441160	Clute	15.80	1	1	1	1	0	0	0	0
1527	483044	5443290	Clute	17.10	1	1	1	1	0	0	0	0
1528	479676	5445146	Calder	14.40	2	2	2	2	0	0	0	0
1529	482505	5438488	Clute	16.90	1	1	1	1	0	0	0	0
1531	444311	5429948	Laidlaw	13.60	0	0	0	0	0	0	0	0
1532	451829	5437753	Bradburn	12.40	0	0	0	0	0	0	0	0
1533	448791	5444257	Sydere	16.70	0	0	0	0	0	0	0	0
1534	448462	5444368	Sydere	17.60	0	0	0	0	0	0	0	0
1535	448507	5447819	Sydere	8.80	0	0	0	0	0	0	0	0
1536	462896	5490070	Adanac	13.10	0	0	0	0	0	0	0	0
1537	463197	5488636	Adanac	13.20	0	0	0	0	0	0	0	0
1538	462813	5470559	Webster	11.50	0	0	0	0	0	0	0	0
1539	449154	5449532	Haggart	5.50	0	0	0	0	0	0	0	0
1540	449192	5454716	Haggart	10.30	4	6	4	6	0	0	0	0
1541	454708	5451819	Kendry	16.00	0	0	0	0	0	0	0	0
1542	454161	5453460	Kendry	17.30	0	0	0	0	0	0	0	0
1543	467355	5428180	Lennox	14.00	0	0	0	0	0	0	0	0
1544	468651	5430704	Lennox	17.60	0	0	0	0	0	0	0	0
1545	468252	5434999	Calder	12.90	1	1	1	1	0	0	0	0
1546	468553	5437299	Calder	15.30	0	0	0	0	0	0	0	0
1547	467821	5441928	Calder	9.10	0	0	0	0	0	0	0	0
1548	467678	5441763	Calder	12.90	0	0	0	0	0	0	0	0
1549	456391	5432469	Dargavel	12.90	2	2	1	1	0	0	1	1
1550	456991	5436736	Bradburn	14.90	8	8	7	7	1	1	0	0
1551	456821	5438669	Bradburn	13.20	1	1	1	1	0	0	0	0
1552	452600	5437607	Bradburn	12.20	1	1	1	1	0	0	0	0
1553	453220	5476773	Webster	10.10	2	3	2	3	0	0	0	0
1554	453713	5469790	Webster	13.00	1	1	1	1	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1555	454628	5467558	Webster	12.70	0	0	0	0	0	0	0	0
1556	443359	5459274	Alexandria	12.20	0	0	0	0	0	0	0	0
1557	443160	5459583	Alexandria	11.80	1	1	1	1	0	0	0	0
1558	443170	5461499	Haggart	13.20	0	0	0	0	0	0	0	0
1559	441261	5481212	Hurdman	14.60	3	3	2	2	1	1	0	0
1560	441462	5480106	Hurdman	14.10	1	1	1	1	0	0	0	0
1561	441237	5474668	Alexandria	12.90	0	0	0	0	0	0	0	0
1562	441963	5471646	Alexandria	13.60	2	2	2	2	0	0	0	0
1563	436601	5474582	Machin	13.30	0	0	0	0	0	0	0	0
1564	436250	5474090	Machin	10.30	0	0	0	0	0	0	0	0
1565	434268	5468479	Shackleton	12.90	1	1	1	1	0	0	0	0
1566	441507	5469977	Alexandria	9.00	0	0	0	0	0	0	0	0
1567	442597	5506448	Agate	13.00	3	3	3	3	0	0	0	0
1568	443064	5504823	Agate	13.10	0	0	0	0	0	0	0	0
1569	443027	5504508	Agate	12.30	2	2	2	2	0	0	0	0
1570	441736	5502012	Agate	13.10	0	0	0	0	0	0	0	0
1571	452367	5492770	Homuth	14.10	1	1	0	0	1	1	0	0
1572	454652	5489736	Adanac	12.90	0	0	0	0	0	0	0	0
1573	462665	5508390	Avon	12.50	0	0	0	0	0	0	0	0
1575	440765	5452278	Haggart	16.60	0	0	0	0	0	0	0	0
1576	440767	5452030	Haggart	14.60	0	0	0	0	0	0	0	0
1577	430674	5460273	Shackleton	11.00	0	0	0	0	0	0	0	0
1578	463368	5496418	Homuth	16.60	1	1	1	1	0	0	0	0
1579	427661	5462163	Shackleton	13.85	3	3	3	3	0	0	0	0
1580	427119	5442605	Carmichael	16.60	0	0	0	0	0	0	0	0
1581	439130	5476146	Alexandria	13.10	0	0	0	0	0	0	0	0
1582	400472	5458783	Swanson	11.60	4	5	4	5	0	0	0	0
1583	422784	5459292	Shackleton	11.45	0	0	0	0	0	0	0	0
1584	423079	5459634	Shackleton	13.10	0	0	0	0	0	0	0	0
1585	421275	5457210	Nansen	12.10	0	0	0	0	0	0	0	0
1586	416367	5457144	Nansen	10.40	1	1	1	1	0	0	0	0
1587	470746	5453088	Colquhoun	12.20	1	1	1	1	0	0	0	0
1588	471062	5452983	Colquhoun	12.70	0	0	0	0	0	0	0	0
1589	471109	5456417	Colquhoun	9.50	0	0	0	0	0	0	0	0
1590	482554	5429184	Ottaway	15.10	2	2	2	2	0	0	0	0
1591	490547	5429692	Fournier	12.20	4	5	3	4	1	1	0	0
1592	463008	5500049	Tucker	13.10	0	0	0	0	0	0	0	0
1593	463780	5503507	Homuth	12.50	0	0	0	0	0	0	0	0
1594	464373	5505987	Homuth	13.40	0	0	0	0	0	0	0	0
1595	464340	5506157	Homuth	12.80	0	0	0	0	0	0	0	0
1596	463517	5508092	Avon	8.90	1	2	1	2	0	0	0	0
1597	463214	5509718	Avon	12.20	2	2	2	2	0	0	0	0
1598	463650	5511915	Avon	14.70	0	0	0	0	0	0	0	0
1599	377723	5457375	Cargill	9.00	0	0	0	0	0	0	0	0
1600	380113	5457481	Sulman	11.70	2	3	2	3	0	0	0	0
1601	404564	5470035	O'Brien	17.55	0	0	0	0	0	0	0	0
1602	399062	5479345	Teetzel	16.50	1	1	1	1	0	0	0	0
1603	383192	5475358	Owens	18.70	0	0	0	0	0	0	0	0
1604	386041	5475236	Owens	17.20	0	0	0	0	0	0	0	0
1605	383698	5478604	Owens	16.10	0	0	0	0	0	0	0	0
1606	383597	5478926	Williamson	18.30	0	0	0	0	0	0	0	0
1607	383918	5482333	Williamson	17.60	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1608	379899	5474309	Owens	18.75	0	0	0	0	0	0	0	0
1609	381009	5475468	Owens	16.10	0	0	0	0	0	0	0	0
1610	419534	5514116	Howells	17.30	0	0	0	0	0	0	0	0
1611	424692	5526532	Howells	18.70	3	2	3	2	0	0	0	0
1612	428007	5522465	Howells	15.70	3	3	3	3	0	0	0	0
1613	424489	5513538	Clay	16.20	0	0	0	0	0	0	0	0
1614	426160	5515267	Clay	14.00	0	0	0	0	0	0	0	0
1615	416042	5524145	Mowbray	16.10	1	1	1	1	0	0	0	0
1616	429569	5516865	Clay	15.90	0	0	0	0	0	0	0	0
1617	429454	5514816	Clay	18.80	0	0	0	0	0	0	0	0
1618	431938	5506304	Tucker	17.50	0	0	0	0	0	0	0	0
1619	435319	5505437	Tucker	17.40	1	1	1	1	0	0	0	0
1620	423612	5527357	Howells	17.70	4	3	4	3	0	0	0	0
1621	431097	5512533	Clay	16.20	0	0	0	0	0	0	0	0
1623	421564	5517490	Hopkins	14.10	0	0	0	0	0	0	0	0
1624	413975	5512943	Hopkins	14.20	1	1	1	1	0	0	0	0
1625	459107	5527630	Pinard	10.10	1	1	1	1	0	0	0	0
1626	458814	5528441	Pinard	17.00	1	1	1	1	0	0	0	0
1627	459351	5530437	Pinard	18.30	3	2	3	2	0	0	0	0
1628	459661	5530490	Pinard	13.20	1	1	1	1	0	0	0	0
1629	459625	5530705	Pinard	15.90	1	1	1	1	0	0	0	0
1630	460886	5532321	Pinard	18.40	3	2	3	2	0	0	0	0
1639	472175	5492865	Tolmie	14.70	1	1	1	1	0	0	0	0
1640	472943	5493504	Tolmie	16.20	0	0	0	0	0	0	0	0
1641	472251	5495193	Tolmie	18.60	0	0	0	0	0	0	0	0
1642	472044	5495331	Tolmie	15.60	0	0	0	0	0	0	0	0
1643	472213	5496059	Tolmie	14.70	1	1	1	1	0	0	0	0
1644	471207	5497677	Tolmie	15.20	2	2	2	2	0	0	0	0
1645	469920	5500337	Tolmie	15.00	0	0	0	0	0	0	0	0
1646	468948	5502498	Tolmie	17.60	1	1	1	1	0	0	0	0
1647	466420	5508779	Bourassa	17.30	1	1	1	1	0	0	0	0
1651	381503	5460149	Sulman	13.00	0	0	0	0	0	0	0	0
1652	388359	5461691	Sulman	9.90	4	6	4	6	0	0	0	0
1653	389590	5461704	Sulman	13.30	1	1	1	1	0	0	0	0
1654	389706	5464715	Owens	13.60	2	2	2	2	0	0	0	0
1655	395111	5464211	O'Brien	11.60	0	0	0	0	0	0	0	0
1656	394810	5465520	O'Brien	9.20	0	0	0	0	0	0	0	0
1657	393301	5468733	O'Brien	12.90	4	5	4	5	0	0	0	0
1658	391584	5468681	Owens	9.90	8	12	7	11	1	2	0	0
1659	395126	5477415	O'Brien	12.20	0	0	0	0	0	0	0	0
1660	395366	5479828	Teetzel	17.30	3	3	3	3	0	0	0	0
1661	398020	5483668	Teetzel	14.20	4	4	4	4	0	0	0	0
1662	398210	5485290	Teetzel	12.50	0	0	0	0	0	0	0	0
1663	398647	5485406	Teetzel	13.10	0	0	0	0	0	0	0	0
1664	399382	5487301	Teetzel	10.80	0	0	0	0	0	0	0	0
1665	401878	5490215	Teetzel	18.90	0	0	0	0	0	0	0	0
1666	401273	5490801	Teetzel	12.50	0	0	0	0	0	0	0	0
1667	428081	5472800	Machin	14.10	0	0	0	0	0	0	0	0
1668	429220	5479837	Beardmore	14.20	0	0	0	0	0	0	0	0
1669	430821	5483333	Beardmore	6.60	0	0	0	0	0	0	0	0
1670	431101	5487602	Beardmore	11.40	1	1	1	1	0	0	0	0
1671	431949	5488185	Beardmore	14.10	1	1	1	1	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1672	432020	5488557	Beardmore	13.70	0	0	0	0	0	0	0	0
1673	432283	5489477	Beardmore	15.50	0	0	0	0	0	0	0	0
1674	431627	5492989	Tucker	14.30	0	0	0	0	0	0	0	0
1675	430313	5494667	Tucker	15.20	0	0	0	0	0	0	0	0
1676	430010	5501225	Tucker	16.80	0	0	0	0	0	0	0	0
1688	455559	5521509	Pinard	15.30	0	0	0	0	0	0	0	0
1690	355937	5463982	Ecclestone	16.70	0	0	0	0	0	0	0	0
1691	355151	5461805	Ecclestone	14.70	1	1	1	1	0	0	0	0
1692	355183	5461887	Ecclestone	16.70	0	0	0	0	0	0	0	0
1693	353692	5461768	Ecclestone	17.50	0	0	0	0	0	0	0	0
1694	368742	5496296	Neely	16.90	1	1	1	1	0	0	0	0
1696	361291	5480729	McCrea	12.60	0	0	0	0	0	0	0	0
1697	361447	5482861	McCrea	16.70	0	0	0	0	0	0	0	0
1698	360629	5485858	McCrea	17.10	0	0	0	0	0	0	0	0
1699	363061	5485246	McCrea	15.30	1	1	1	1	0	0	0	0
1700	366530	5486367	Idington	16.30	0	0	0	0	0	0	0	0
1701	462409	5517686	Avon	13.90	0	0	0	0	0	0	0	0
1702	460314	5519598	Avon	17.60	0	0	0	0	0	0	0	0
1703	460308	5519455	Avon	15.40	0	0	0	0	0	0	0	0
1704	458935	5522244	Pinard	18.40	0	0	0	0	0	0	0	0
1705	473657	5483017	Menapia	16.10	1	1	1	1	0	0	0	0
1706	474717	5472603	Beniah	18.00	5	4	5	4	0	0	0	0
1707	487016	5464075	Marven	18.10	2	2	2	2	0	0	0	0
1708	331241	5466853	Magladery	18.00	0	0	0	0	0	0	0	0
1709	335412	5462558	Rykert	14.60	0	0	0	0	0	0	0	0
1710	352300	5476187	Parnell	19.50	0	0	0	0	0	0	0	0
1711	352123	5476227	Parnell	17.60	0	0	0	0	0	0	0	0
1712	353169	5477643	Parnell	17.30	3	3	3	3	0	0	0	0
1713	322835	5459539	Caithness	12.80	0	0	0	0	0	0	0	0
1714	332115	5476212	Magladery	16.60	0	0	0	0	0	0	0	0
1715	392864	5477154	Owens	17.40	2	2	2	2	0	0	0	0
1716	326157	5499304	Devitt	15.90	0	0	0	0	0	0	0	0
1717	328042	5512709	Shannon	14.50	2	2	2	2	0	0	0	0
1718	327881	5506811	Devitt	12.50	0	0	0	0	0	0	0	0
1719	328741	5502684	Devitt	16.00	1	1	1	1	0	0	0	0
1720	336556	5513136	Sankey	10.80	0	0	0	0	0	0	0	0
1721	336947	5511602	Sankey	12.90	1	1	1	1	0	0	0	0
1722	336119	5507422	Eiber	17.90	0	0	0	0	0	0	0	0
1723	337196	5501094	Eiber	12.50	2	2	2	2	0	0	0	0
1724	336700	5496685	Eiber	19.40	0	0	0	0	0	0	0	0
1725	337684	5499924	Eiber	14.50	0	0	0	0	0	0	0	0
1726	341760	5495664	Eiber	17.40	0	0	0	0	0	0	0	0
1728	322791	5478538	Orkney	9.50	1	2	1	2	0	0	0	0
1729	324473	5480646	Staunton	11.30	0	0	0	0	0	0	0	0
1730	326638	5481613	Staunton	17.10	0	0	0	0	0	0	0	0
1731	329030	5484827	Staunton	19.50	0	0	0	0	0	0	0	0
1732	335388	5488198	Barker	16.80	0	0	0	0	0	0	0	0
1733	339267	5485305	Barker	18.80	0	0	0	0	0	0	0	0
1734	361827	5498099	McCowan	17.00	3	3	3	3	0	0	0	0
1735	358841	5501135	McCowan	16.80	7	6	5	4	2	2	0	0
1736	353602	5506798	McCowan	12.60	0	0	0	0	0	0	0	0
1737	360587	5502980	McCowan	14.20	0	0	0	0	0	0	0	0
1738	367006	5510456	Burritt	16.40	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1739	391443	5498887	Nixon	16.20	1	1	1	1	0	0	0	0
1740	388840	5489520	Williamson	20.20	0	0	0	0	0	0	0	0
1741	364986	5482292	Idington	19.10	0	0	0	0	0	0	0	0
1742	369993	5486386	Idington	17.50	0	0	0	0	0	0	0	0
1743	403278	5467505	O'Brien	14.00	0	0	0	0	0	0	0	0
1744	403450	5467432	O'Brien	15.40	1	1	1	1	0	0	0	0
1745	396556	5460249	Swanson	16.50	2	2	2	2	0	0	0	0
1746	396528	5468546	O'Brien	14.00	1	1	1	1	0	0	0	0
1747	378137	5474139	Cumming	13.30	0	0	0	0	0	0	0	0
1748	373491	5468964	Cumming	14.50	0	0	0	0	0	0	0	0
1749	374434	5478436	Cumming	14.40	0	0	0	0	0	0	0	0
1751	425231	5468094	Machin	15.80	0	0	0	0	0	0	0	0
1752	424881	5465148	Machin	17.80	1	1	1	1	0	0	0	0
1753	425795	5464710	Machin	15.70	0	0	0	0	0	0	0	0
1754	425242	5481602	Beardmore	19.00	0	0	0	0	0	0	0	0
1755	414312	5483998	Gurney	16.90	0	0	0	0	0	0	0	0
1756	417909	5500413	Torrance	19.50	4	3	4	3	0	0	0	0
1758	415833	5491519	Gurney	15.60	1	1	1	1	0	0	0	0
1759	414357	5489085	Gurney	15.30	0	0	0	0	0	0	0	0
1760	408158	5481523	Gurney	18.30	1	1	1	1	0	0	0	0
1761	383210	5490236	Williamson	15.80	0	0	0	0	0	0	0	0
1762	383576	5489967	Williamson	16.90	0	0	0	0	0	0	0	0
1763	385720	5491595	Williamson	15.60	0	0	0	0	0	0	0	0
1764	388892	5494228	Nixon	17.50	1	1	1	1	0	0	0	0
1765	389892	5494497	Nixon	17.40	0	0	0	0	0	0	0	0
1766	393099	5493881	Nixon	16.90	0	0	0	0	0	0	0	0
1767	393297	5493013	Pearce	17.80	1	1	1	1	0	0	0	0
1768	392713	5489065	Williamson	20.00	3	2	2	2	1	1	0	0
1770	397280	5489275	Teetzel	15.90	1	1	1	1	0	0	0	0
1771	400628	5491597	Teetzel	19.30	1	1	1	1	0	0	0	0
1772	408713	5498450	Torrance	17.50	0	0	0	0	0	0	0	0
1773	407022	5494169	Pearce	15.10	0	0	0	0	0	0	0	0
1774	405785	5492227	Teetzel	15.60	0	0	0	0	0	0	0	0
1776	414950	5461204	Nansen	12.10	0	0	0	0	0	0	0	0
1777	420884	5465052	Fauquier	9.90	0	0	0	0	0	0	0	0
1778	401408	5539751	Bradley	18.50	0	0	0	0	0	0	0	0
1779	406537	5535106	Boyle	19.20	2	2	2	2	0	0	0	0
1780	401828	5530280	Boyle	13.60	1	1	1	1	0	0	0	0
1781	399734	5532807	Boyle	16.50	0	0	0	0	0	0	0	0
1782	354547	5461204	Ecclestone	10.20	0	0	0	0	0	0	0	0
1783	357118	5465400	Parnell	8.70	0	0	0	0	0	0	0	0
1784	357044	5465962	Parnell	18.00	1	1	1	1	0	0	0	0
1785	357281	5467290	Parnell	13.60	0	0	0	0	0	0	0	0
1786	357488	5468314	Parnell	16.00	0	0	0	0	0	0	0	0
1787	356782	5470620	Parnell	14.60	3	3	3	3	0	0	0	0
1788	357032	5474629	Parnell	18.60	0	0	0	0	0	0	0	0
1789	357262	5474805	Parnell	15.90	0	0	0	0	0	0	0	0
1790	358438	5480407	McCrea	14.20	5	5	5	5	0	0	0	0
1792	408112	5481575	Gurney	18.50	0	0	0	0	0	0	0	0
1793	368710	5463555	Cargill	17.40	14	12	14	12	0	0	0	0
1794	333491	5492390	Staunton	16.60	0	0	0	0	0	0	0	0
1795	333387	5492797	Caithness	15.20	0	0	0	0	0	0	0	0
1798	358801	5484406	McCrea	12.50	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1801	366996	5461698	Cargill	16.80	0	0	0	0	0	0	0	0
1802	359018	5462005	Ecclestone	15.90	1	1	1	1	0	0	0	0
1803	365898	5459764	Cargill	18.70	0	0	0	0	0	0	0	0
1804	371108	5466485	Cumming	19.50	0	0	0	0	0	0	0	0
1805	349584	5488720	Barker	15.00	0	0	0	0	0	0	0	0
1806	349578	5488714	Barker	15.80	0	0	0	0	0	0	0	0
1807	332121	5478738	Magladery	11.50	0	0	0	0	0	0	0	0
1808	330963	5465773	Rykert	13.60	0	0	0	0	0	0	0	0
1809	326760	5464937	Rykert	14.50	0	0	0	0	0	0	0	0
1810	324553	5466041	Magladery	12.00	0	0	0	0	0	0	0	0
1811	319052	5465571	Caithness	15.10	2	2	2	2	0	0	0	0
1812	323392	5474267	Orkney	8.40	0	0	0	0	0	0	0	0
1813	319644	5481310	Shetland	11.10	0	0	0	0	0	0	0	0
1814	331252	5482778	Staunton	14.80	5	5	5	5	0	0	0	0
1815	331127	5482680	Staunton	16.10	0	0	0	0	0	0	0	0
1816	338899	5492625	Barker	12.60	0	0	0	0	0	0	0	0
1817	379947	5487252	Williamson	13.90	0	0	0	0	0	0	0	0
1818	361054	5499893	McCowan	15.90	0	0	0	0	0	0	0	0
1819	354667	5500406	McCowan	16.80	4	4	4	4	0	0	0	0
1820	334703	5505775	Devitt	12.40	0	0	0	0	0	0	0	0
1821	334577	5505846	Devitt	11.50	6	8	5	7	1	1	0	0
1822	337551	5509576	Sankey	15.80	0	0	0	0	0	0	0	0
1823	353071	5511787	Fleck	14.70	0	0	0	0	0	0	0	0
1824	367103	5516961	Burritt	12.10	0	0	0	0	0	0	0	0
1825	368260	5514617	Burritt	12.90	0	0	0	0	0	0	0	0
1826	369701	5515081	Burritt	14.10	0	0	0	0	0	0	0	0
1827	377461	5523930	Hillmer	14.30	0	0	0	0	0	0	0	0
1828	379109	5527177	Hillmer	14.30	0	0	0	0	0	0	0	0
1829	382445	5525404	McKnight	12.50	0	0	0	0	0	0	0	0
1830	391269	5514146	Weichel	12.80	0	0	0	0	0	0	0	0
1831	384921	5507047	Nixon	12.30	0	0	0	0	0	0	0	0
1832	365219	5525112	Hillmer	14.80	0	0	0	0	0	0	0	0
1833	360656	5528699	Sweet	13.50	0	0	0	0	0	0	0	0
1834	359727	5539841	McLeister	15.30	1	1	1	1	0	0	0	0
1835	358655	5540248	McLeister	10.40	0	0	0	0	0	0	0	0
1836	367744	5537452	Fryatt	9.20	2	3	2	3	0	0	0	0
1837	369389	5534431	Hillmer	11.70	1	1	1	1	0	0	0	0
1838	376217	5540137	Fryatt	8.80	1	2	1	2	0	0	0	0
1839	384329	5529154	McKnight	8.40	2	4	2	4	0	0	0	0
1841	384274	5520099	Weichel	12.30	0	0	0	0	0	0	0	0
1842	387778	5522000	Weichel	12.10	1	1	1	1	0	0	0	0
1843	393061	5522996	McKnight	9.90	0	0	0	0	0	0	0	0
1844	389084	5524844	McKnight	11.20	3	4	3	4	0	0	0	0
1845	388750	5532339	McKnight	9.10	0	0	0	0	0	0	0	0
1846	390915	5533508	McKnight	12.10	0	0	0	0	0	0	0	0
1847	389007	5540280	Haney	13.40	0	0	0	0	0	0	0	0
1848	394102	5538925	Bradley	9.70	0	0	0	0	0	0	0	0
1849	405451	5534695	Boyle	15.70	0	0	0	0	0	0	0	0
1850	406296	5487651	Teetzel	13.50	4	4	4	4	0	0	0	0
1851	404731	5474332	O'Brien	15.00	0	0	0	0	0	0	0	0
1852	392410	5457574	Sulman	17.60	0	0	0	0	0	0	0	0
1855	374212	5471880	Cumming	17.50	1	1	1	1	0	0	0	0
1856	374123	5471446	Cumming	14.40	1	1	1	1	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1859	351506	5458651	Ecclestone	15.20	0	0	0	0	0	0	0	0
1860	355842	5485901	McCrea	15.80	0	0	0	0	0	0	0	0
1861	336427	5477200	Magladery	13.20	0	0	0	0	0	0	0	0
1862	337026	5466391	Magladery	14.30	0	0	0	0	0	0	0	0
1863	328636	5458779	Rykert	13.40	0	0	0	0	0	0	0	0
1864	325896	5465720	Rykert	12.40	0	0	0	0	0	0	0	0
1865	320444	5465608	Caithness	16.60	0	0	0	0	0	0	0	0
1866	322648	5470384	Orkney	9.00	1	2	1	2	0	0	0	0
1867	322604	5475005	Orkney	12.40	2	2	2	2	0	0	0	0
1868	327735	5480827	Orkney	11.00	2	3	2	3	0	0	0	0
1869	331387	5484309	Staunton	16.30	0	0	0	0	0	0	0	0
1871	360295	5499550	McCowan	12.10	0	0	0	0	0	0	0	0
1872	344962	5505114	Eiber	13.20	0	0	0	0	0	0	0	0
1873	327657	5512310	Shannon	11.80	5	6	4	5	1	1	0	0
1874	344396	5512075	Sankey	11.90	0	0	0	0	0	0	0	0
1876	367130	5515538	Burritt	11.90	0	0	0	0	0	0	0	0
1877	370583	5519223	Burritt	14.10	2	2	2	2	0	0	0	0
1878	373335	5523529	Hillmer	17.10	0	0	0	0	0	0	0	0
1879	378960	5524552	Hillmer	16.20	0	0	0	0	0	0	0	0
1880	380655	5527920	McKnight	11.70	2	3	2	3	0	0	0	0
1881	393026	5513348	Weichel	11.20	0	0	0	0	0	0	0	0
1882	392017	5512690	Weichel	11.50	0	0	0	0	0	0	0	0
1883	384213	5506872	Nixon	9.50	0	0	0	0	0	0	0	0
1884	364940	5529033	Sweet	10.30	0	0	0	0	0	0	0	0
1885	360022	5535518	Sweet	7.70	0	0	0	0	0	0	0	0
1886	360166	5535554	Sweet	12.50	0	0	0	0	0	0	0	0
1887	366036	5540242	Fryatt	15.40	0	0	0	0	0	0	0	0
1889	369640	5533571	Hillmer	8.90	0	0	0	0	0	0	0	0
1890	377797	5539935	Fryatt	11.10	2	3	2	3	0	0	0	0
1892	388843	5523958	McKnight	12.30	0	0	0	0	0	0	0	0
1893	389519	5529619	McKnight	9.80	0	0	0	0	0	0	0	0
1894	391252	5532475	McKnight	13.90	0	0	0	0	0	0	0	0
1895	392048	5536271	McKnight	7.1	0	0	0	0	0	0	0	0
1896	393243	5537132	Haney	14.9	0	0	0	0	0	0	0	0
1899	405040	5484323	Teetzel	17.3	0	0	0	0	0	0	0	0
1901	424394	5495137	Tucker	14.8	0	0	0	0	0	0	0	0
1904	428632	5507338	Clay	16	0	0	0	0	0	0	0	0
1905	425722	5509454	Clay	15.3	0	0	0	0	0	0	0	0
1906	421966	5510925	Hopkins	15.3	0	0	0	0	0	0	0	0
1907	409916	5519294	Hopkins	17.7	0	0	0	0	0	0	0	0
1908	408974	5530324	Mowbray	15.9	0	0	0	0	0	0	0	0
1919	411262	5507521	Hopkins	14.3	0	0	0	0	0	0	0	0
1920	426380	5536796	Cockshutt	13.6	0	0	0	0	0	0	0	0
1921	425277	5537415	Cockshutt	9.8	0	0	0	0	0	0	0	0
1945	437383	5538344	Cockshutt	13	0	0	0	0	0	0	0	0
1946	439861	5537886	Traill	8.9	1	2	1	2	0	0	0	0
1947	441876	5535211	Sheldon	11.5	0	0	0	0	0	0	0	0
1948	437171	5533578	Howells	9.7	0	0	0	0	0	0	0	0
1949	430895	5523401	Howells	10.3	0	0	0	0	0	0	0	0
1950	435123	5501103	Tucker	12.3	0	0	0	0	0	0	0	0
1951	435691	5487073	Beardmore	15.5	0	0	0	0	0	0	0	0
1952	435200	5487290	Beardmore	16	0	0	0	0	0	0	0	0
1953	425072	5499173	Tucker	11.2	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
1954	425012	5505017	Tucker	11.8	0	0	0	0	0	0	0	0
1955	426882	5509843	Homuth	11.7	0	0	0	0	0	0	0	0
1956	422475	5508459	Clay	13.6	0	0	0	0	0	0	0	0
1959	408170	5530226	Boyle	15.4	0	0	0	0	0	0	0	0
1960	398571	5523470	Boyle	12.1	0	0	0	0	0	0	0	0
1971	402061	5504311	Pearce	12.8	0	0	0	0	0	0	0	0
1972	428045	5539277	Cockshutt	9.6	0	0	0	0	0	0	0	0
1973	420697	5538852	Harmon	11.8	0	0	0	0	0	0	0	0
2001	436848	5506053	Tucker	10.6	0	0	0	0	0	0	0	0
2002	441726	5508273	Marceau	10.8	0	0	0	0	0	0	0	0
2005	440971	5536249	Traill	15.5	0	0	0	0	0	0	0	0
2006	438934	5536153	Sheldon	8.9	0	0	0	0	0	0	0	0
2007	435559	5526073	Howells	12.9	0	0	0	0	0	0	0	0
2008	438427	5502456	Agate	10.9	0	0	0	0	0	0	0	0
2009	440571	5505619	Agate	15.1	0	0	0	0	0	0	0	0
2010	442834	5510774	Marceau	14.4	0	0	0	0	0	0	0	0
2011	450329	5509868	Marceau	11.3	0	0	0	0	0	0	0	0
2012	445764	5504420	Agate	11.5	0	0	0	0	0	0	0	0
2013	451478	5499782	Homuth	15.1	0	0	0	0	0	0	0	0
2014	441929	5496684	Marceau	12	0	0	0	0	0	0	0	0
2015	448417	5509803	Marceau	15.3	0	0	0	0	0	0	0	0
2016	449628	5503256	Agate	9.8	0	0	0	0	0	0	0	0
2017	441655	5498559	Agate	12	1	1	1	1	0	0	0	0
2018	442143	5491899	Agate	11.3	0	0	0	0	0	0	0	0
2019	448720	5488150	Hurdman	14.8	0	0	0	0	0	0	0	0
2020	451953	5485867	Adanac	13.3	0	0	0	0	0	0	0	0
2022	447623	5517436	Marceau	11	0	0	0	0	0	0	0	0
2023	439876	5515521	Marceau	15.3	0	0	0	0	0	0	0	0
2024	443325	5521415	Sheldon	13.5	0	0	0	0	0	0	0	0
2025	446220	5522535	Sheldon	14.1	0	0	0	0	0	0	0	0
2026	461845	5504718	Homuth	13.1	0	0	0	0	0	0	0	0
2027	440641	5485538	Hurdman	15.2	0	0	0	0	0	0	0	0
2028	446588	5492217	Hurdman	13.6	0	0	0	0	0	0	0	0
2029	450779	5486714	Hurdman	8.9	0	0	0	0	0	0	0	0
2030	448408	5516865	Marceau	10.6	0	0	0	0	0	0	0	0
2031	443205	5517133	Marceau	14.2	0	0	0	0	0	0	0	0
2032	440853	5518654	Marceau	14	0	0	0	0	0	0	0	0
2033	445599	5522735	Sheldon	13.1	0	0	0	0	0	0	0	0
2034	451056	5534332	Sheldon	11.1	0	0	0	0	0	0	0	0
2035	447502	5535042	Sheldon	11	0	0	0	0	0	0	0	0
2036	452647	5538744	Parliament	10.2	1	1	1	1	0	0	0	0
2038	443603	5489854	Hurdman	14.8	0	0	0	0	0	0	0	0
2040	446113	5538438	Traill	14.1	1	1	1	1	0	0	0	0
2042	455271	5534140	Pinard	13.8	0	0	0	0	0	0	0	0
2075	473752	5464859	Beniah	10.9	0	0	0	0	0	0	0	0
2076	468798	5469873	Beniah	15.8	0	0	0	0	0	0	0	0
2077	449312	5482309	Hurdman	14.2	0	0	0	0	0	0	0	0
2078	448238	5463672	Haggart	15.5	1	1	1	1	0	0	0	0
2079	487983	5498016	Agassiz	13.6	1	1	1	1	0	0	0	0
2080	479879	5505942	Tolmie	12.6	0	0	0	0	0	0	0	0
2091	466397	5465026	Beniah	16.2	0	0	0	0	0	0	0	0
2092	465060	5477531	Webster	15.4	1	1	1	1	0	0	0	0
2093	444347	5468286	Alexandria	11.7	0	0	0	0	0	0	0	0

Sample	UTM		Township	Table	Total		Reshaped		Modified		Pristine	
00-KAP	East	North		Feed (Kg)	R	N	R	N	R	N	R	N
2102	475392	5489100	Menapia	11	0	0	0	0	0	0	0	0
2150	483891	5472945	Marven	13.1	0	0	0	0	0	0	0	0
2151	484931	5491669	Ireland	13.6	0	0	0	0	0	0	0	0
2152	490999	5502216	Agassiz	16.2	0	0	0	0	0	0	0	0
2244	503481	5466599	Thorning	9.7	0	0	0	0	0	0	0	0
2253	430500	5454544	Shackleton	10.9	0	0	0	0	0	0	0	0
2254	432051	5449120	Shackleton	12.2	0	0	0	0	0	0	0	0
2255	436570	5447921	Carmichael	11.3	0	0	0	0	0	0	0	0
2256	439604	5446210	Sydere	14.6	0	0	0	0	0	0	0	0
2257	434858	5443284	Carmichael	11	0	0	0	0	0	0	0	0
2258	430040	5442329	Carmichael	10.8	0	0	0	0	0	0	0	0
2259	446063	5439141	Sydere	5.2	0	0	0	0	0	0	0	0
2260	445362	5443920	Sydere	9	0	0	0	0	0	0	0	0
2261	456944	5446878	Kendry	12	0	0	0	0	0	0	0	0
2262	472820	5455885	Colquhoun	11.2	0	0	0	0	0	0	0	0
2263	511116	5482466	Swartman	16.3	0	0	0	0	0	0	0	0
2268	533075	5482549	McQuibban	15.2	0	0	0	0	0	0	0	0
2269	531190	5479020	McQuibban	12.4	0	0	0	0	0	0	0	0
2284	511227	5457026	Laughton	13.3	0	0	0	0	0	0	0	0
2285	512477	5459612	Laughton	15.1	0	0	0	0	0	0	0	0
2286	516492	5461853	Laughton	14.6	0	0	0	0	0	0	0	0
2287	515926	5458569	Laughton	14.4	0	0	0	0	0	0	0	0
2288	516379	5456409	Laughton	15	0	0	0	0	0	0	0	0
2289	514806	5453919	Laughton	13.4	2	2	2	2	0	0	0	0
2290	510291	5452891	Laughton	12.9	2	2	2	2	0	0	0	0
2307	504544	5458891	Blount	11.5	0	0	0	0	0	0	0	0
2308	502666	5460567	Blount	14.5	0	0	0	0	0	0	0	0
2309	501003	5463094	Thorning	14.4	0	0	0	0	0	0	0	0
2310	500698	5464266	Thorning	15.3	0	0	0	0	0	0	0	0
2311	492326	5477929	Ireland	9.3	0	0	0	0	0	0	0	0
2312	520544	5481713	Swartman	13.1	0	0	0	0	0	0	0	0
2313	523906	5480493	McQuibban	13.6	0	0	0	0	0	0	0	0
2314	508664	5437465	Glackmeyer	17.5	0	0	0	0	0	0	0	0
2315	507707	5441354	Glackmeyer	16.5	0	0	0	0	0	0	0	0
2316	501781	5449905	Blount	16.5	0	0	0	0	0	0	0	0
2317	503132	5448123	Glackmeyer	15	0	0	0	0	0	0	0	0
2318	486781	5451424	Leitch	11	0	0	0	0	0	0	0	0
2319	484449	5457656	Leitch	12.9	0	0	0	0	0	0	0	0
2320	481122	5457938	Leitch	11.2	0	0	0	0	0	0	0	0
2321	482641	5459592	Leitch	18.7	0	0	0	0	0	0	0	0
2322	474277	5476121	Beniah	13.5	0	0	0	0	0	0	0	0
2323	474719	5475465	Beniah	13.2	0	0	0	0	0	0	0	0
2324	478304	5462661	Colquhoun	13.7	0	0	0	0	0	0	0	0
2325	481447	5464390	Marven	14.3	1	1	1	1	0	0	0	0
2326	487732	5465169	Marven	13.4	0	0	0	0	0	0	0	0
2327	489917	5465155	Marven	16.3	2	2	2	2	0	0	0	0
2328	472033	5446128	Calder	14.7	0	0	0	0	0	0	0	0
2329	454766	5460221	Kendry	8.8	0	0	0	0	0	0	0	0
2330	436609	5463361	Shackleton	9.3	0	0	0	0	0	0	0	0
2331	418800	5466554	Fauquier	14.8	0	0	0	0	0	0	0	0
2332	418799	5468760	Fauquier	11.8	0	0	0	0	0	0	0	0
2333	397801	5472770	O'Brien	14.6	0	0	0	0	0	0	0	0
2338	515075	5463471	Laughton	18.5	0	0	0	0	0	0	0	0

Sample 00-KAP	UTM East	UTM North	Township	Table Feed (Kg)	Total R	Total N	Reshaped R	Reshaped N	Modified R	Modified N	Pristine R	Pristine N
2339	519345	5465115	Potter	12.8	0	0	0	0	0	0	0	0
2340	504485	5424214	Brower	16.7	0	0	0	0	0	0	0	0
2341	513153	5438888	Kennedy	18.6	1	1	1	1	0	0	0	0
2342	508340	5460906	Blount	14.6	0	0	0	0	0	0	0	0
2343	512108	5471837	Potter	14.7	0	0	0	0	0	0	0	0
2345	503138	5466406	Thorning	13.4	0	0	0	0	0	0	0	0
2346	494619	5444840	Clute	10.1	0	0	0	0	0	0	0	0
2347	485445	5449635	Leitch	12.8	0	0	0	0	0	0	0	0
2348	488238	5437570	Clute	10.4	0	0	0	0	0	0	0	0
2358	522029	5479640	Swartman	11.5	0	0	0	0	0	0	0	0
2359	527077	5479186	McQuibban	10.7	0	0	0	0	0	0	0	0
2361	491003	5447230	Clute	12.1	0	0	0	0	0	0	0	0
2362	440639	5485535	Hurdman	11.4	0	0	0	0	0	0	0	0
2363	353537	5506759	McCowan	13.3	0	0	0	0	0	0	0	0
2405	519862	5462071	Laughton	11.2	0	0	0	0	0	0	0	0
2409	507866	5456680	Blount	14.7	0	0	0	0	0	0	0	0
2410	503033	5459613	Blount	10	0	0	0	0	0	0	0	0
2411	500273	5464919	Thorning	14.6	0	0	0	0	0	0	0	0
2412	494629	5486813	Ireland	15.5	0	0	0	0	0	0	0	0
2413	492212	5471215	Marven	16.3	0	0	0	0	0	0	0	0
2751	465187	5454993	Kendry	10.30	0	0	0	0	0	0	0	0
2752	468103	5448345	Calder	14.00	2	2	2	2	0	0	0	0
2753	471171	5430212	Lennox	11.80	0	0	0	0	0	0	0	0
2754	489727	5433606	Fournier	12.10	0	0	0	0	0	0	0	0
2755	499311	5428164	LaMarche	13.00	0	0	0	0	0	0	0	0
2756	483644	5455007	Leitch	8.50	4	7	4	7	0	0	0	0
			Total		302	334	289	318	12	14	1	1

= 507 samples

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APPENDIX H: Data Plotting Parameters: Sample Normalization Calculations.

1) Count estimate calculation

$$\text{Number of normalized grains} = \frac{(\text{estimated number of grains})}{(\text{number of picked grains})} \times \text{number of KIMs}$$

EXAMPLE

For sample 00-KAP-1508, 26 grains were picked from the concentrate out of an estimated 50 grains. Microprobe analysis confirmed only 19 grains were KIM chromite. Normalization is calculated as follows:

$$\text{Number of normalized grains} = \frac{(50)}{(26)} \times 19 \quad = \quad 37 \text{ grains}$$

2) Table weight feed normalization

$$\text{Number of normalized grains} = \frac{(\quad 15\text{ Kg} \quad)}{(\text{table weight feed})} \times \text{number of picked grains}$$

EXAMPLE

For sample 00-KAP-1508, the table weight feed was 10.40 Kg and 19 chromites were picked from the sample that plotted in the overlap field of Fipke et al.'s (1995) diagram. To normalize to a table weight of 15 Kg the calculation is as follows:

$$\text{Number of normalized grains} = \frac{(15\text{ Kg})}{(10.40\text{ Kg})} \times 19 \quad = \quad 27 \text{ grains}$$

Metric Conversion Table

Conversion from SI to Imperial			**Conversion from Imperial to SI**		
SI Unit	*Multiplied by*	*Gives*	*Imperial Unit*	*Multiplied by*	*Gives*
			LENGTH		
1 mm	0.039 37	inches	1 inch	**25.4**	mm
1 cm	0.393 70	inches	1 inch	**2.54**	cm
1 m	3.280 84	feet	1 foot	**0.304 8**	m
1 m	0.049 709	chains	1 chain	20.116 8	m
1 km	0.621 371	miles (statute)	1 mile (statute)	**1.609 344**	km
			AREA		
1 cm^2	0.155 0	square inches	1 square inch	**6.451 6**	cm^2
1 m^2	10.763 9	square feet	1 square foot	**0.092 903 04**	m^2
1 km^2	0.386 10	square miles	1 square mile	2.589 988	km^2
1 ha	2.471 054	acres	1 acre	0.404 685 6	ha
			VOLUME		
1 cm^3	0.061 023	cubic inches	1 cubic inch	**16.387 064**	cm^3
1 m^3	35.314 7	cubic feet	1 cubic foot	0.028 316 85	m^3
1 m^3	1.307 951	cubic yards	1 cubic yard	0.764 554 86	m^3
			CAPACITY		
1 L	1.759 755	pints	1 pint	0.568 261	L
1 L	0.879 877	quarts	1 quart	1.136 522	L
1 L	0.219 969	gallons	1 gallon	**4.546 090**	L
			MASS		
1 g	0.035 273 962	ounces (avdp)	1 ounce (avdp)	28.349 523	g
1 g	0.032 150 747	ounces (troy)	1 ounce (troy)	**31.103 476 8**	g
1 kg	2.204 622 6	pounds (avdp)	1 pound (avdp)	**0.453 592 37**	kg
1 kg	0.001 102 3	tons (short)	1 ton (short)	**907.184 74**	kg
1 t	1.102 311 3	tons (short)	1 ton (short)	**0.907 184 74**	t
1 kg	0.000 984 21	tons (long)	1 ton (long)	**1016.046 908 8**	kg
1 t	0.984 206 5	tons (long)	1 ton (long)	**1.016 046 90**	t
			CONCENTRATION		
1 g/t	0.029 166 6	ounce (troy)/ ton (short)	1 ounce (troy)/ ton (short)	34.285 714 2	g/t
1 g/t	0.583 333 33	pennyweights/ ton (short)	1 pennyweight/ ton (short)	1.714 285 7	g/t

OTHER USEFUL CONVERSION FACTORS

	Multiplied by	
1 ounce (troy) per ton (short)	31.103 477	grams per ton (short)
1 gram per ton (short)	0.032 151	ounces (troy) per ton (short)
1 ounce (troy) per ton (short)	20.0	pennyweights per ton (short)
1 pennyweight per ton (short)	0.05	ounces (troy) per ton (short)

Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.